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VOLUME XXII NUMBER 2

THE AGRICULTURAL STUDENT

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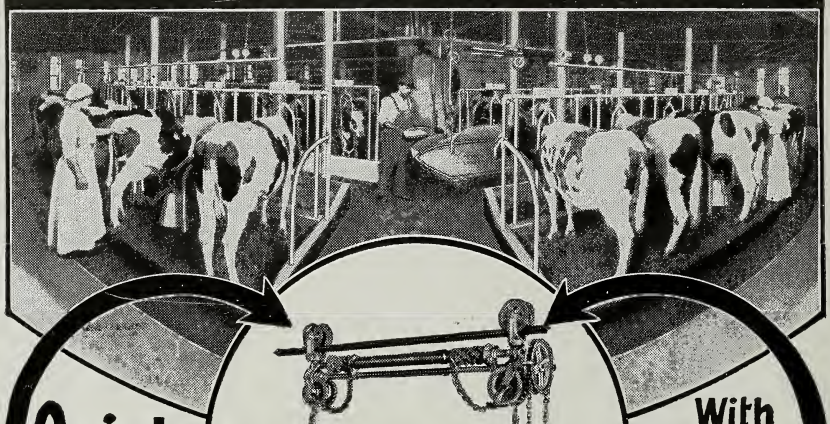

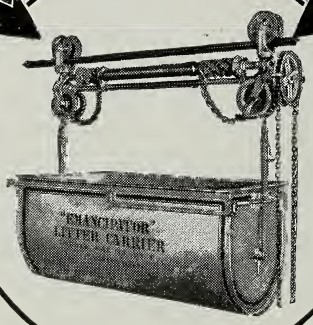

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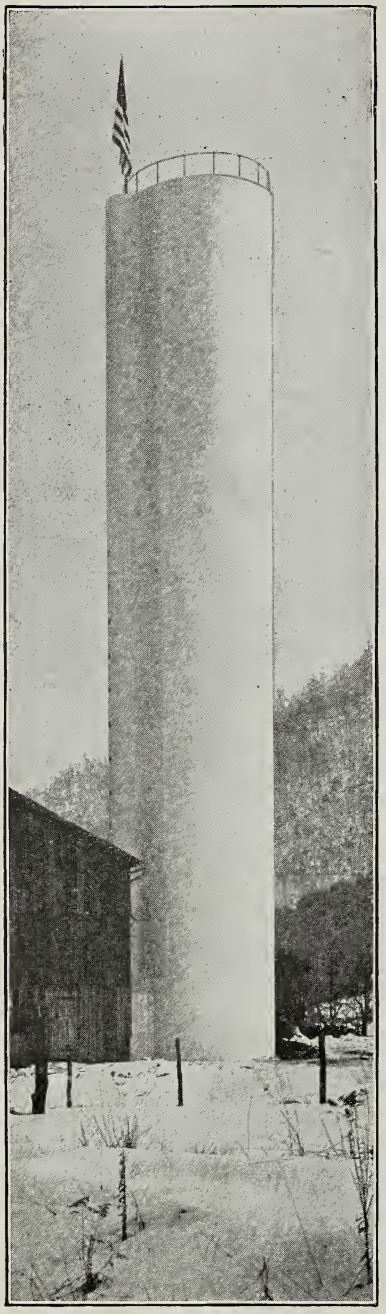

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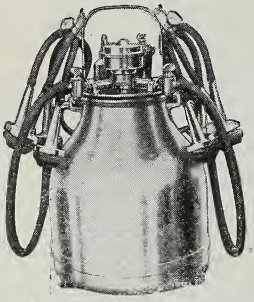

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With the "Tenths" Counted.				Same Without "Tenths" Counted.			
	Cream	Test	Fat		Cream	Test	Fat
August 6	38.9	37.8	14.70	August 6	38	37	14.06
" 11	38.7	35.6	13.77	" 11	38	35	13.30
" 17	38.5	36.5	14.05	" 17	38	36	13.68
" 21	38.5	36.2	13.93	" 21	38	36	13.68
" 25	38.5	35.8	13.78	" 25	38	35	13.30
" 31	39.8	38.8	15.44	" 31	39	38	14.82
			85.67				82.84

Ella Allwine's "Tenths" gained her 2.83 pounds of fat, worth $0.69. We paid "Freight" back to her on 6 cans at 12c each, equal to $0.72.

We sent her a check for $21.70. $21.70 divided by 82.84 equals 26.2c. At Elgin average price, her "Tenths" and "Freight" paid her 26.2c minus 24.5c, equals 1.7 cents above Elgin.

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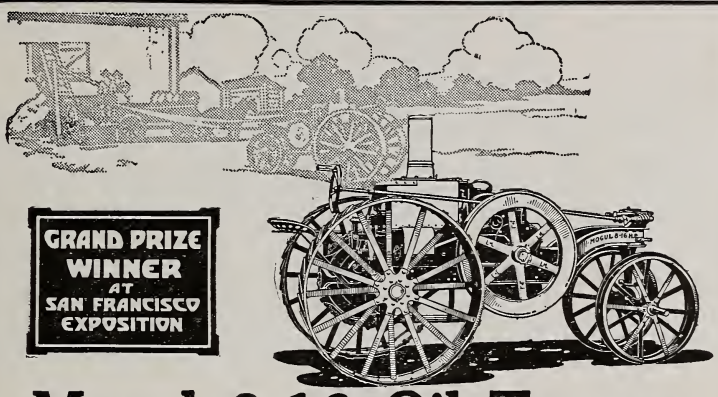

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Contents

Page.

THE ESSENTIALS OF CO-OPERATION—
T. N. Carver 95

FARM MANAGEMENT DEMONSTRATIONS—
J. I. Falconer 99

THE FARM BUREAU WORK IN OHIO—
George W. Bush 103

THE COUNTY EXPERIMENT FARM—
Chas. E. Thorne 107

THE RELATION OF THE COUNTRY CHURCH TO AGRICULTURE—
C. R. Titlow 109

HARVESTING THE APPLE CROP—
Williard H. Mosier 111

TRIBUTES AND APPRECIATIONS OF JOSEPH E. WING 114

EDITORIALS 117

PRINCIPLES AND POLICIES IN CONTEST WORK—
O. H. Benson 120

ANIMAL HUSBANDRY ITEMS 125

CURRENT LITERATURE 128

HORTICULTURAL NEWS 130

ALUMNI NOTES 132

NEWS NOTES 135

THE
AGRICULTURAL STUDENT

Vol. XXII. OHIO STATE UNIVERSITY, COLUMBUS, OCTOBER, 1916 *No. 2*

THE ESSENTIALS OF CO-OPERATION

How the Enlarged Use of Capital in Agriculture Aids the Farmer.

THOMAS N. CARVER, Harvard University

IN its simplest and broadest sense co-operation merely means working together. It has come, however, to have a specialized meaning and, therefore, usually refers to a special method of working together. In the broader sense, when neighboring farmers exchange work in harvest or threshing time, they are co-operating. In order to run a modern thresher, more labor force is necessary than the average farm can supply and, therefore, it is necessary for a group of neighboring farmers to work together and follow the thresher around from farm to farm. This is a kind of co-operation which has been in effect ever since the threshing machine was invented. Long before this time there was co-operaiton in the log rollings, barn raisings, corn huskings and other rural enterprises where a considerable fund of labor had to be applied. The special features of these early forms of co-operation, however, was the uniting of the labor force of the community for the accomplishment of any task which required more labor than the single farm could furnish.

One of the fundamental changes which has taken place in agriculture within the memory of men now living is the enlarged use of capital in agriculture. A similar change took place in manufacturing a generation earlier. A good many enterprises are now necessary for the prosperity of rural communities, which require more capital than the average farmer has or can secure. It is now as necessary that a group of neighboring farmers should combine their capital for these special purposes as it was a generation ago that they should combine their labor. In fact, in the special and narrow sense in which the word co-operation is now generally used, it means the uniting of the capital of a neighborhood rather than the labor of a neighborhood.

If you will study the great co-operative systems that have made such an impression on the business of European countries, both in the cities and in the rural districts, you will find very little co-operation in the earlier sense of the uniting of the labor power of a large number of men; it almost exclusively consists of the uniting of the capital of a large number of men, each one supplying a very small fraction of the total. The great English Co-Operative Society, for example, hires the employees who work in its stores and factories exactly as a private business hires them.

Wherein, then, it may be asked, does a co-operative society differ from a partnership or a joint stock co-operation? These also, especially the latter, are forms of working together through the uniting of a large number of small funds of capital into a large fund for the accomplishment of a definite purpose. There are, as a matter of fact,

some points of resemblance between a co-operative society and a joint stock corporation, but there are also some very important points of difference. They resemble one another in that, as just suggested, they unite a large number of small funds of capital into a large fund. They are similar also in that they employ labor required to carry on the business, paying the wages and giving it no part in the management of the enterprise unless the individual laborers happen to hold shares of capital. In short, both are alike in that they co-operate in the supplying of capital and in assuming the responsibility of management.

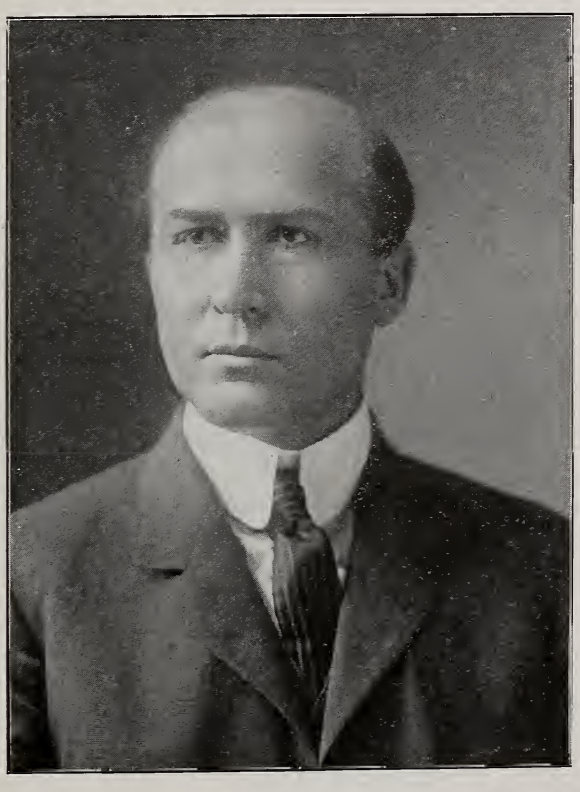
They differ, however, in three important particulars: In the joint stock corporation the voting is done by shares, each individual casting a vote for each share which he owns; whereas in the co-operative society, each individual casts but one vote, regardless of how many shares he may happen to own. In the second place, in the joint stock corporation the profits of the enterprise are distributed in proportion to the number of shares owned, whereas in the co-operative society the profits are distributed to the patrons in proportion to the amount of business which they have done within the society. The owner of ten shares of stock who has done no business with the society would not share in the profits at all. He would merely get interest on the capital which he had contributed, at a rate previously agreed upon, whereas the owner of one share who had done $1,000 worth of business with the society would, if any profits were earned, receive his dividend in proportion to the $1,000 worth of business which he had done. Another individual who had done only $100 worth of business, no matter how many shares he owned, would receive one-tenth as much in the way of profits as the man who had done $1,000 worth of business. Another difference, which really explains the first two, is the fact that a co-operative society is organized primarily to do business with its own members, whereas a joint stock association is organized primarily to do business with other people.

It is sometimes said that a joint stock association is a profit-making organization, whereas a co-operative society is a nonprofit-making enterprise. This is only partly true. It is true in a narrow technical sense. That is to say, a co-operative society as a society does not aim to make any profits, but since it does business with its own members, its purpose is to enable its members to make larger profits on the rest of their business. A co-operative store among farmers, for example, while in itself making no profits, is designed to add to the profits of farming by enabling its own members to buy supplies cheaper or sell products to a better advantage. Thus, both the joint stock corporation and the co-operative society aim to benefit their own members, the former by doing business with other people at a profit and dividing that profit among the members; the latter by doing business with its own members and saving them money in the process.

The reasons for the "one man one vote" policy of the co-operative society are, first, a sentimental reason or a feeling that it is more democratic.

This is not necessarily true, but so long as people think so, there is no harm in allowing that feeling to have weight in the policy of the association. Since a co-operative society is designed primarily for men with small capital, it gives such men confidence that they will have their full share in the man-

agement of the association and that a few large capitalists can not come in and, by controlling a majority of the shares, out-vote them and control the association. A better reason is found in the fact that under the "one share one vote" method there would be a real danger that certain large shareholders might find it more to their advantage to control the association in the interest of dividends on shares rather than in the interest of the other business which they were doing with the association. For example, in a co-operative creamery a large shareholder might own very few cows and do very little business with the creamery. In such a case he might find it to his interest to control the creamery so as to make a large dividend on shares rather than to pay a high price for butter fat, whereas another man who owned very few shares, but kept a great many cows, would care more for the price of butter fat than for the dividend on shares. Since the purpose of a co-operative creamery is to secure a good price for butter fat, it is important that this point be safeguarded and that the creamery should always be run in such a way as to secure the maximum price for butter fat rather than to secure the largest possible dividends on shares. As already stated, this is the essence of co-operation, namely, that it should add to the profits of farming rather than that it should make a profit on the business of the association as such.



THOMAS N. CARVER

A further consideration of the conditions and the opportunities for co-operation will reveal the fact that there are certain kinds of enterprises to which

the joint stock method is better adapted than the co-operative method, and others to which the co-operative method is better adapted. In all kinds of business organization it is a sound rule that the control and the benefit should be in proportion to the service rendered. If the purpose of the organization is to do business with other people, the chief service which a member of the organization can render is to contribute capital to the business. Under such circumstances this rule would require that the control and the benefit should be in proportion to the capital supplied. That is especially true when such large funds of capital are required as to make the success of the business dependent upon an adequate supply. Under such circumstances he who contributes most to that supply contributes most to the success of the business, other things being equal. But where the organization is formed for the purpose of doing business with its own members, and where, moreover, no large funds of capital are required, though more than usually be supplied by any individual member, the raising of an adequate fund of capital is fairly easy, and the individual's contribution to the success of the enterprise does not depend so directly upon the amount which he advances. It depends more directly upon the amount of business which he does. If it is a co-operative store, it is easier to get capital than it is to get business. He who does the most business with the store contributes most to its success. He should, therefore, have more control and more of the profit or benefit than he who does less business. Similarly, with a co-operative creamery or grain elevator or marketing association, that member who does the most business with his association renders it the greatest service or contributes most to its success. In all such cases his control and his benefit should be proportional to the amount of business which he does, rather than to the amount of capital which he has advanced.

FARM MANAGEMENT DEMONSTRATIONS

Analyzing the Business of Farming and Methods of Farm Organization.

J. I. FALCONER, Ohio State University

WITH the rapidly increasing attention being given to agricultural education and extension it is desirable that as exact knowledge as possible be secured of the present status of agriculture in the various communities of the state. Suggestions for improvement in any branch of farming in order to be most effective must be made on the basis of a thorough knowledge of present local conditions; and these vary widely in the various sections of Ohio. This is especially true in the subject of farm organization. It was partly with this in mind that the extension department of the College of Agriculture, in co-operation with the United States Department of Agriculture, has placed a man permanently in the field whose duty will be to study the business of farming and the methods of farm organization in the various communities of the state, and then on the basis of these studies to make constructive suggestions for improvement.

It is a matter of common observation that in any given region one will find farmers who are meeting with varying degrees of success; various kinds of farm organization and various methods and practices will be found in use. Some follow general farming, others give their chief attention to live stock, others to crops; some have drained their farms and use limestone, others have not; some keep well bred stock, others common scrubs. Furthermore, a study of the organization of these farms will show that some of them are yielding a much larger return to the farmer for the money and energy invested than others. Some farmers through their efficient organization are securing a good annual profit, are building up their farms and have secured an enviable standing in the community in which they live, while others who are apparently working just as hard are hardly able to make both ends meet.

To what is this difference due? Does some one type of farming pay better than the others in this particular region? Is it because some farmers have larger farms than others or is it because some farmers have more and better cows than their neighbors? Are the larger returns on a few farms due to the fact that they grow different crops than their less successful neighbors or is it due to the fact that they have larger crop yields? Why do some farmers succeed and others fail? Is it possible to analyze the business of a farming community and determine some of the factors that make for success on the successful farms, and point out the elements of weakness on the unsuccessful ones? Are there some methods or practices commonly present on the more successful farm of a community that are not usually found on the unsuccessful ones? Is it possible to map out a system of farming that will include most of the elements of success found on the successful farms and eliminate the elements of weakness that are the main causes of failure on the unsuccessful ones? It is with questions such as these in mind that the farm management demonstrator will work.

In carrying out the work, the method pursued is to select an area, the farming of which is typical of a much wider territory, one where conditions as to soil, topography, market, etc., are as

nearly uniform as possible. Every farmer in the region will be visited and an hour or two spent with him, taking a complete statement of the amount of business done on the farm for one year. This will include a statement of the area of land in the farm, the acreage and amount of crops raised and sold, the amount of live stock kept during the year, the amount bought and sold, the receipts from dairy products, poultry, hogs, etc. In fact, all items of expense, including labor, depreciation, interest on investment, and all items of receipts are taken, or any other item which appears to be of special significance in the organization of the farm; enough data is secured to make a general analysis of the farm business for the previous year.

THE RESULT OF GOOD FARM MANAGEMENT.

When a sufficient number of records have been secured, usually about one hundred in each territory, they are taken into the office and the figuring completed; this includes the computing of the farmers' labor income, which is used as a basis of comparison of the relative profitableness of different methods of organization or the different practices followed. In this way the factors in the organization of the farm which appear to influence the profitableness of the farm enterprise are determined and brought out. In Geauga County, for instance, it was found that the quality of live stock kept was frequently a factor in determining the profitableness of the farm business. The average returns for one hundred dollars' worth of feed consumed by a grade cow was one hundred and thirty-four dollars, while for a pure bred cow it was one hundred and seventy-two dollars. This should suggest one possible line of improvement for many Geauga County farmers. Similar figures found and presented in another community have already initiated a movement for the formation of a cow testing association.

The accuracy of the figures gathered by this method is sometimes questioned, but it is believed by those who have been engaged in the work that the figures are thoroughly reliable for the use which is to be made of them. Few

farmers, it is true, keep a written record of the business done during the year; the figures given therefore are largely estimates, but when the farmer's estimate has been checked with the actual as taken from the books of the creamery, milk company or elevator, the two have been found remarkably close. During the collecting of the data the records taken during the day are copied every evening from the field blanks to office blanks and the figures checked to detect any errors. Where a seeming error is found the farmer is revisited or called up by telephone and the correction made. With the co-operation of the farmer in the giving of the records it is believed that the figures are thoroughly reliable.

When the analyzing of the data of a community is completed a sheet is made out for each farm on which is given a summary of what are considered the most important figures for all the farms from which data was secured, a summary of the figures for the fifteen or twenty best farms, and for the farm of the one to whom the sheet is to be returned. This sheet will be returned to the farm by the local leader or the farm management demonstrator. It is here, when the local leader sits down with the farmer on his own farm with the factor sheet before them and discusses the latter's farm organization item by item, that a large part of the benefit will be derived. Being confronted, for instance, with figures showing that one's own cows are giving a total income of only $60 per head, while those of his more succesfsul neighbor are giving a total income of $150 per head, should suggest a possible line of improvement. Weak points in his farm organization can be pointed out and constructive suggestions made for improvement on the basis of the practice of his more successful neighbor. It is planned to carry on the demonstration in the same region for three successive years so that the work can be closely followed up and the movement kept alive.

As a project in the extension of better agriculture it is hoped that no small part of the benefits of the work will come in the training of local leaders, and the placing at their disposal of a large amount of data regarding the agriculture of their community. The work will be carried on only where local leaders can be named; the county agent is perhaps the best situated to act in this capacity. By working with the farm management demonstrator in the compiling of the data the local leader will be trained to have the farm management point of view. It will give

Average Comparison of 33 Farms Having Pure Bred Dairy Cows, With 111 Farms Having Grade Dairy Cows, in Geauga County.

	Pure Breds.	Grades.
Labor income	$802 00	$250 00
Dairy (milk and butter) receipts per cow	82 60	74 10
Cattle receipts per cattle unit (includes young stock)	103 00	76 40
Feed consumed per cow	61 40	54 30
Dairy receipts per $100 worth of feed consumed	134 50	136 50
Cattle receipts per $100 worth of feed consumed	171 80	134 20
Average value per animal unit	131 00	59 00
Cattle receipts per $100 invested in cattle	78 70	112 60

him a deeper insight into the status of the agriculture of his community and will enable him to better analyze a farm business. By presenting the results at meetings and institutes throughout the county he will be able to give the information and teachings widespread dissemination. It is hoped also that an interest in the work can be created in the rural high schools.

It is probably true that one of the most important elements in success in farming is the personal element or the point of view held. Some are quick to grasp an opportunity, while others are not. Those who are open-minded will be quick to take advantage of any opportunity which may arise. If left to their own devices they will soon discover and introduce the methods which are best adapted to their purpose and ability. This is true, but nevertheless it is hoped that the demonstration work may at least give direction to the efforts of some farmers by showing them how other farmers are accomplishing an end to better advantage than they themselves. That it will assist in the procuring of an open and receptive mind toward improvement.

Aside from its value as a basis for extension work, the data collected will be of much use as material for classroom and research work. When data has accumulated from the various sections of the state with their various types of farming it will furnish a vast amount of material for studies in the economics of agricultural production.

Efficiency of Farming as Labor Income.

	Mr. E's Farm.	Av. 167 Farm.	Mr. F's Farm.
Total acres	190	116	76
Crop acres	60	39	31
Number of cows	13	10	9
Labor income	$127 00	$346 00	$1024 00
Dairy receipts per cow	35 00	74 00	144 00
Feed consumed per cow	54 00	61 00	62 00
Live stock receipts per $100 worth feed consumed	80 00	106 00	161 00

Life goes lapsing like a dream—
Happiness to sweet to last!
Let us glory in the gleam
  Like a halo round us cast!
  Facing winter's blight and blast—
Rigors of a rugged clime—
  We have treasures of the past,

FARM BUREAU WORK IN OHIO

Activities of the Agriculturists in Advancing the Movement.

GEORGE W. BUSH, State Leader, Ohio State University

NO farm bureau will long continue to be a useful organization unless its members feel that they are doing a worth while. The county agent must use his organization and get it work worth while to do, or the organization will become dormant and the agent will be able to reach only a limited number because of being compelled to do things himself that the organization should do for him. People learn to do things by doing them, not by having the work done for them. That agent is most useful who gets the largest number of people interested and started in doing things for themselves.

The following are some of the activities in which a county farm bureau may engage:

1. Advise with the county agent and help the county agent and state leader plan the work, approve and sign the written county projects.
2. Conduct a farmers' exchange.
3. Publish a farm bureau monthly.
4. Assist in organizing purchasing and marketing associations.
5. Take part in and give publicity to the demonstration work.
6. Organize a woman's auxiliary to promote the interests of farm women.
7. Assist in financing the county agent work.
8. Promote school, township and county fairs.
9. Assist in organizing cow-testing, live stock, breeders' and seed-improvement associations.
10. Assist in organizing communities to combat outbreaks of contagious animal diseases and to fight insect ravages.
11. Lead in uniting all organizations within the county into a county rural life association.

Local interest and responsibility are essential in any kind of public effort for the improvement of conditions. Assistance from without is of little value unless supplemented by local effort. **This effort should be managed at home.** This is the primary reason for the Farm Bureau Association.

All over the state, the question is being raised, "Why should I pay money to support an organization for which all the people are taxed through national, state and county appropriations?" This question is a fair one, but the answer is plain. There are two good reasons why individuals should personally support a Farm Bureau Association with their memberships and money.

First, while a farm bureau is a public institution and free to everyone, nevertheless it is true that a man always gets the greatest benefit from what he contributes toward and what he is definitely interested in. Persons who take memberships in and pay their money to a Farm Bureau Association have a proprietary interest in it not possessed by nonmembers. Moreover, the farm bureau is a public enterprise and its members show their public spirit when they join and take an active part in its administration.

Secondly, the Farm Bureau Association gives a direct benefit to its members, which nonmembers are not entitled to. The justification for expending public funds in farm bureau effort lies in the fact that it benefits everyone.

Leadership, initiative, organization, economic and social studies, demonstrations, and even the kind of personal help which furnishes a good example to the neighborhood, are all legitimate benefits from public funds. But there is a kind of assistance which is purely personal for which the public funds should not be expended, and for which persons should pay. All such work as furnishing special quotations and rates on lime, fertilizers, seeds, feeds, live stock, and other supplies and advertising these materials and other products for sale, is more a personal than a public benefit, and should be paid for by the individual receiving it in the form of a membership in the Farm Bureau Association. The Federal Government recognized this when it ruled that correspondence and circular matter on these subjects is not frankable. State and county funds should be subject to the same restrictions. Here, then, are two good and sufficient reasons for membership in the Farm Bureau Association: (1) A member helps himself (the most effective kind of help), when he takes an active part in the farm bureau work, and in addition shows his public spirit by helping with his vote and influence to direct this work along right lines, and (2) he gets a direct and personal benefit to which a non-member is not entitled.

A GOOD ROAD SECURED THROUGH THE FARM BUREAU

MONTGOMERY COUNTY.

Hog cholera is on the increase. A good portion of my time is now given to immuning hogs from cholera.

Co-operative buying and selling is a very strong factor of the work in this county. On one side of the office is a large blackboard, on which is a list of articles for sale and articles wanted, as well as farm help and farm work wanted. This is known as the Farmers' Information Bureau.

MAHONING COUNTY.

Estimated loss from oat smut in Mahoning County varies from 2 per cent for the lowest to 53 per cent for the highest. The field most badly damaged and was cut for hay. A systematic campaign will be made next year to in- had been seeded with Canada field peas

duce the farmers of the county to treat their seed oats.

We are pleased with the interest and attendance at the home canning demonstrations held. The idea was entirely new in this county, so that the attendance was not what it would have been if the work had been understood. The average housewife thinks that she is able to look after her own particular interests along this line, so that it is a very difficult matter to advertise these meetings in order that they may be understood. During the course of these demonstrations, many confessions were made by those present in regard to their own canning. Nearly all have had more or less trouble in getting fruits and vegetables to keep. In answer to questions, the fact was brought out that not more than 5 per cent of those who attended the demonstration had ever tried the "cold pack" method of canning fruit, meat and vegetables. The general idea prevailed that it was necessary to use sugar, syrup, salt and preservatives in order to have fruit or vegetables keep.

Canning was done by the wash-boiler, steamer without pressure and the steam pressure outfits. Peaches, plums, apples, pears, beet tops, sweet corn, string beans, tomatoes, etc., were canned in glass. Tomatoes and beans were canned in tin. At one of the demonstrations not a lady present had ever used a glass-top jar of any kind. None were on sale in the town. The merchants stated that there was no call for them. There will be from now on, because a number of the ladies said that they were going to give them a trial.—D. W. Galehouse.

CLERMONT COUNTY.

Mr. Bolander, one of the men in whose orchard we held a thinning demonstration, said the work added at least 25 cents per barrel to the price he received for his apples and perhaps meant a difference between a sale and no sale. He thinks he will have 1,600 barrels. —Victor Herron.

PORTAGE COUNTY.

I am co-operating with the Woman's Club of Ravenna in conducting three school gardens for the children of the town; with the extension department and the Agricultural College in conducting a boys' judging contest at the fair, and have boys corn and potato clubs in co-operation with the schools of the county.

Our County Association conducts a semi-annual stock sale free for all members. There were 22 auto loads on County Association farm inspection trip and 15 farms were visited. It was a noted success.—H. P. Miller.

MIAMI COUNTY.

Our county organization purchased the following material this year: 1,235 tons fertilizer at a saving of $4,323; 2,000 tons coal at a saving of $2,000; 8,250 gallons spray material at a saving of $990; 100 bushels alfalfa, clover, timothy seed, etc., at a saving of $200; 2 carloads of fence posts at a saving of $100.

Several of the local organizations have ordered feed independently of this organization that will bring the amount up to a total of $10,000. In addition to this I secured reduced prices on hog cholera serum and treated something like 1,000 head of hogs. It is hard to estimate the value of this work in each in dollars and cents.—M. C. Thomas.

GEAUGA COUNTY.

The county agent work in Geauga County has been directed along the following lines, namely, to organize the forces of the community to obtain by community effort those things that

must be obtained, if at all through organization. The large results, in keeping with the effort, have been along these lines.

The co operative purchase of commercial fertilizers through the association has amounted annually to from 800 to 1,000 tons, and has effected an annual saving to the farmers of from $3,000 to $4,000 in the purchase price. Perhaps nearly as great a saving has been secured by a more economic and intelligent use of plant food.

Campaigns for the treatment of oat seed for smut have resulted in the treatment of the seed for perhaps 1,000 acres this season (1915). The results are very marked. Treated fields are almost absolutely clean, while untreated fields contain from 5 per cent to 50 per cent of smut. Oat yields this year are averaging about 50 bushels per acre, and if we place the increase from seed treatment at only about 10 per cent, it means a saving of 5,000 bushels, worth $2,000.

It may be of interest to know that in going through the farm records recently taken, I find that of the 25 better farmers, all but four have made use of this office, while of the 49 having minus labor incomes, only six have availed themselves of posible help from here. It shows the attitude of the two classes.

I had the opportunity to talk with many hundred people at the fair. Many were interested, some to the extent that they asked to have their farm business analyzed by the farm record plan. The general questions most frequently asked were regarding lime, fertilizers, white grub, sprays for fruit and potatoes, potato blight and rot, treatment for newly seeded alfalfa, curing of soy beans, cow-testing associations, etc.—F. L. Allen.

THE FARM BUREAU HELPS THE BREEDER.

THE COUNTY EXPERIMENT FARM

How Problems of Drainage, Fertility, and Farm Industries Are Studied.

CHAS. E. THORNE, Director, Ohio Agricultural Experiment Station

SIX county experiment farms have been established and put in operation under the law authorizing such farms, namely: in Paulding, Miami, Hamilton, Clermont, Washington and Trumbull Counties, and a seventh farm has been located in Mahoning County, but is awaiting court action with reference to the title to the land selected before the work was begun on it.

The Paulding and Miami County farms were the first to be established, having been located in the spring of 1911, and while four years is too short a time for the attainment of any definite results in the study of the soil, yet a few pointers are of interest. In the experiments with fertilizers the black land of the Paulding County farm has shown practically no response to treatment, the fertilized land frequently yielding less than that left untreated, and yet the crops grown on the land have not all been exceptionally large, the three-year average yield of corn for 1912 to 1914 running from 45 to 55 bushels, and that of oats from 40 to 50 bushels. Wheat, however, has been an exception, averaging 35 bushels for the two seasons, 1913 and 1914.

On the Miami County farm the average unfertilized yield of corn for the four years, 1911 to 1914, has been about as high as on the Paulding farm, but on this farm fertilizers have produced a marked effect, the average increase amounting to more than 10 bushels per acre. The oats yields have been nearly the same in the two counties, but wheat has yielded less in Miami than in Paulding, except where it followed tobacco on the Miami County farm.

The comparison of these results emphasizes the importance of studying each type of soil independently; the work thus far done indicates that the management of the Paulding county soil is more of a physical than a chemical problem, that soil being more difficult to get into proper condition than any other soil upon which the station is working.

At the Paulding farm the culture of the sugar beet is being made a special object of investigation, as Paulding County devotes a larger area to this crop than any other county in the state.

Hogs have always been a leading crop in Miami County since the white man took possession, and a considerable part of the work of the county experiment farm is being devoted to a study of the economics of pork production.

The Hamilton County farm was established a year later than those of Paulding and Miami Counties, and it has been necessary to spend more time here in drainage and other improvements than was required for the other farms. Lying so close to Cincinnati as it does, dairying and trucking would seem to be logical lines of work, and it is being prepared for such work.

The Clermont County farm lies in the midst of a great tract of loess soil, covering parts of four or five counties. A fine-grained silty clay, overlying a clay subsoil, a scil which has been depleted by a century of improvident husbandry and which now is thin, waterlogged and cold. The great lines of work here are drainage and the restora-

tion of fertility by crop rotation and fertilizing, and the land is responding at once to this treatment.

Washington County's hills were once the location of many fine orchards and the homes of multitudes of sheep. The orchards have been starved and the pastures have grown thin. The experiment farm in that county will be the center of a new orchard industry, the possibility of which has already been demonstrated, and it will give much attention to pasture rejuvenation. During comparatively recent years a great trucking industry has been developed in the fertile valley of the Muskingum. It is estimated that 750 carloads of tomatoes and other truck crops will be shipped from Marietta in the present season. Logically, therefore, this industry should receive the assistance of the county experiment farm, and provision has been made for the establishment of a truck experiment farm as a branch of the county experiment farm.

In Trumbull County, as in Clermont, the two great problems are drainage and the restoration of the fertility of a depleted soil, and a farm has been found here which will provide an ideal basis for work in both these directions. Lying at opposite corners of the state, with soils of widely different origin, only resembling each other in their depleted condition and lack of drainage, these counties offer opportunity for studies of these great problems from different viewpoints which will be of enormous value if these studies can be wisely planned and carefully executed.

THE RESULT OF CROP ROTATION AND FERTILIZER

The foregoing brief outline of what is being undertaken at the several county experiment farms will give an idea of the proposed plan of management. It will take years to produce results of a definite value, but when the work is fully organized and every important soil type in the state is represented, it can not but prove of enormous value to the agriculture of the state.

THE RELATION OF AGRICULTURE TO THE COUNTRY CHURCH

Where Farming Is Productive the Church Shares in the Profit.

C. R. TITLOW, W. Va. University

THE Rural Life surveys made in Ohio and neighboring states clearly show that where the farms are productive and give profitable returns for the money and labor invested, the country church shares in the prosperity, and where the farms are neglected the church is also neglected.

In the Ohio survey of six counties it was found that where agriculture prospers 34 per cent. of the country churches were growing and 66 per cent. were either standing still or losing ground; and where agriculture suffers 21 per cent of the churches were growing and 79 per cent. were standing still or losing ground.

THE CHURCH SHOULD BE THE CENTER OF THE COMMUNITY

It is unfortunate that the strength of the country church is determined by the agricultural conditions of the community. Far better would it be if the church through its teachings of thrift, sobriety and brotherly co-operation, acted as the chief agency in the building of a prosperous agricultural community. Thus the members of the church would become better farmers than those who were not members of the church; the farms would in time be owned by these more efficient farmers or church members. The non-church members, due to their lack of efficency, would be unable to compete with better farmers and would be compelled to leave the community. By this process of development and elimination the entire country would finally be occupied by Christians who would waste none of their energies in vice or in riotous living and would continue to more profitably till the soil. A relatively large amount of the increased profits from the farms would be returned to the church to broaden its activities in the community and in other lands.

Many leaders in rural church work

think it not the business of the church to make better farmers but to convert to Christianity those who may be found. Granting that it is the business of the church to convert men to Christianity, should not this conversion lead man to become more efficiently prepared for his life's work and its struggles? It is evident that certain churches are meeting this test by inspiring their members with a religious ardor for a pure, simple and energetic life of service and by teaching, like the Great Master, those things that develop the social, educational and physical powers of man as well as to develop a religious life. In other words, those members of these churches are better farmers and citizens than those in the same community who are not members.

If a stranger, passing through one of these communities, were shown the farm and home owned by a member of one of these churches, he would be able to pick out practically every farm owned or operated by members of that church. The general appearance of fields, fences, buildings, animals, etc., indicate that the church member had learned the great lessons of industry, economy, forethought and co-operation.

A few of the denominational schools where young men are trained for the ministry or for other forms of Christian service have awakened to the need of especially trained workers for rural districts and have added required courses in rural economics, rural sociology, farm management, elementary agriculture, etc. It is not the purpose of the course to train the minister or rural worker to be a farmer or to instruct the farmer how to better and more profitably manage his farm, but to give him an appreciative understanding of the farmers' problems in order that he may be a better leader and shepherd.

A minister so trained will without doubt establish a church that will stand for the community service; that will understand the problems of the tenant farmer and will reach out to him and help him to become a real part of the community and an owner of land; that will provide organizations such as agriculture clubs for the boys and canning clubs for the girls, that they may direct the thoughts and efforts of the young people during the six week days as well as on Sunday; that will teach the spirit of co-operation and will inspire its members to organize for co-operative service; that will provide and direct social occasions for young and old and thus solve one of the great rural problems of the present day; that will inspire each member of the community to secure an educational training that will prepare him for his life's work; that will lead all men because of their church relation to become better farmers and citizens.

HARVESTING THE APPLE CROP

Essential Considerations in the Picking and Handling the Fruit.

WILLIARD H. MOSIER, '16, Ohio State University

IN dealing with this subject the first point to be considered is the necessary mechanical equipment used in the operation. If the orchard is a young one, and if it has been grown according to the rules laid down by the modern orchardist, this equipment will be simple in the extreme, consisting mainly of stepladders and baskets. On the other hand, if the plantation is an old one and the trees of large size, an extension ladder or so and a few mechanical pickers will be necessary in order to secure the fruit from the topmost twigs and branches. By a mechanical picker we mean simply a claw-like device fastened on the end of a strong, light pole, and so arranged that a person standing on the ground can reach up and pull off an apple, the same being conveyed to the receptacle through a canvas tube. The height at which this device can be operated, of course, depends upon the length of the pole; however, they are cumbersome when more than 30 feet long. Regarding the ladders, there are several models which will give satisfaction, depending upon the topographical features of the plantation. If the surface is level, an ordinary stepladder will suffice. However, if the plantation is a large one, it will be best to secure some of the regular picking ladders. These differ from the ordinary ladder in that the ladder part is much wider and rests against only one supporting leg instead of two. The advantage is that they can be set much closer to the trunks of the trees than the old kind, are much

APPLES SHOULD BE PICKED WHEN THEY ARE HARD RIPE

lighter and more easily handled, and at the same time are not so easily overthrown if properly set up. If the topography of the orchard is rugged, one or two of the so called hill ladders will be found of value. This is simply the ordinary fruit ladder with its base attached to a frame in the form of a half circle, and so arranged that the supporting posts of the ladder proper can be set at any angle to conform to the hillside. Regarding the straight ladders, any kind will do providing they are light and strong. Also, if the trees are large, an extension ladder or two will be needed, as has been previously mentioned.

The picking receptacle should be briefly mentioned at this point. There are many kinds on the market, some made of canvas, some of metal and some of wood, while in size and shape they vary between wide limits. Most of them will give fair results providing the interior is padded so as not to bruise the fruit. However, experience has shown that the round, half bushel basket, when properly padded, makes the ideal receptacle under most conditions.

After the picking outfit is secured, the next logical step is to determine when it is time to begin harvesting the crop. This will vary greatly for places of the same latitude, as the topography, methods of orchard management, physical condition of the soil, etc., all add their quota to the causes of variation. Each grower must determine for himself when his fruit is in proper condition to pick. In general, however, one can say that for storage purposes, apples should be well matured and what is called "hard ripe'; that is, the color well developed, the flesh hard and firm, and the edges of the seeds brown, but not black. On the question of color it is well to add a word of warning. It is a well known natural law that the physical condition of any object is never stationary, but that it is either improving or deteriorating; and this law holds good with the apple. Now, if the grower allows the fruit to remain on the trees longer than the hard ripe stage in order to develop a fancy color, he does so at the expense of the prime physical condition of the flesh of the apple. This physical deterioration may not be apparent at the time the fruit is picked, but will become apparent during the storage period in the form of water core, soft rot, blotches, corky areas, etc. In fact it is very common for the growers to blame the storage companies for heavy losses during the storage period, when in many cases the mischief was done before the fruit reached the plant. Also be careful not to bruise the fruits or to break the skin in the least, for by so doing you make an entrance which rot and disease spores are sure to find and thus cause a loss in the end.

Another common source of storage loss is to be found in the manner in which the fruit is handled from the time it is picked until it is placed in storage. In the past it has been a common practice to allow the apples to lay in piles in the orchard from one to ten days during the picking season. This practice should never be permitted, for during the warm days and cool nights of autumn the fruit treated thus goes through a sweat and deteriorates rapidly. In fact it has been shown by experiment that, other things being equal, the storage loss is in direct proportion to the time elapsing between the picking of fruit and the placing of same in storage. In short, place the fruit in storage as soon as possible after it is picked.

Last, but not least, in importance, comes the care of the trees during the harvesting operation. This is so because it is the trees themselves which are the permanent source of income, while the present crop has to do with the one season only. It is certainly a depressing sight to one who loves trees to see an apple picker shod in heavy boots climb about through a tree and as little as possible; and in case injury should result from one cause or another, the wound should be immediately covered with some good wound dressing. But always remember that in this case the old adage holds good, "An ounce of prevention is worth a pound of cure." Again, when placing ladders among the limbs and twigs of the outer branches, take just a little

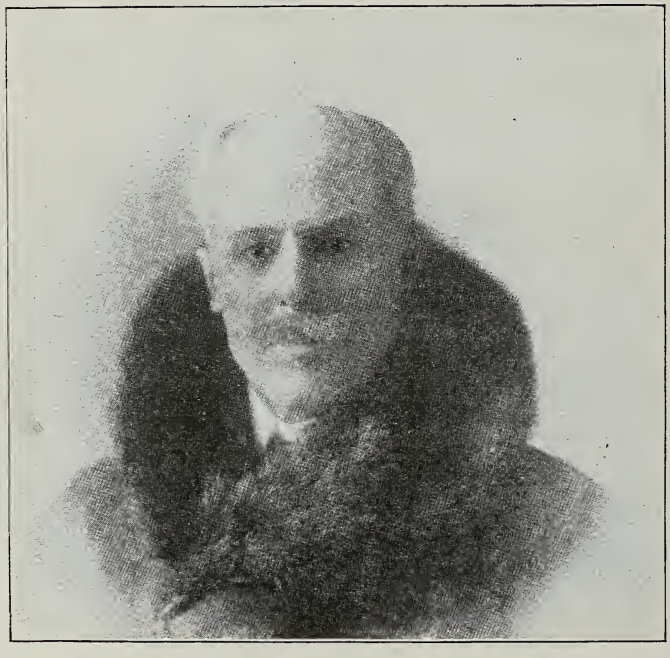
AN EASY TREE TO PICK

cause a bark wound wherever he happens to stand on a limb. This is so because every bark wound is subject to infestation by disease spores, which in time will develop canker or rot and thus materially lessen the life of the tree. In fact it is an excellent practice where possible to insist that all the fruit be picked by means of ladders or from the ground. However, if it becomes necessary for the pickers to climb the trees, they should wear rubber soled shoes so as to injure the bark time and care so as not to bruise or break the tender growth any more than is absolutely necessary. Thus a little care exercised during the harvesting operation in behalf of the trees is time well spent.

In conclusion, we may say that in handling the apple crop, as in any other farm operation, the rules dictated by common sense are always the best, and if followed accordingly, this phase of orcharding will most assuredly be a success.

APPRECIATIONS AND TRIBUTES OF JOSEPH E. WING

Joseph Wing belonged to all of us and not to Ohio alone; and his memory is ours throughout the country. He had the gift of the best human sympathy, and he expressed it with enthusiasm and with literary charm. He was a rare and radiant soul. I think that his influence on the development of the best satisfactions of country life will continue to be far-reaching. His writing is of the kind that will carry his personality to those who never had the privilege to know him.—L. H. Bailey, Cornell University.



JOSEPH E. WING, OHIO'S APOSTLE OF AGRICULTURE

Our friend, Joseph E. Wing, was one of the most useful men to his generation that it has been my privilege to know. He was serviceable because he had knowledge and sympathy. His wide acquaintance with scientists and practical stockmen and farmers broadened his knowledge and vision, and in his heart always was a strong sympathy with those whose lives he touched in any way. The people recognized the fact and loved him. This opened the door to direct helpfulness, and he exerted a wide influence upon our country's agriculture. His death has brought a sense of personal loss to people scattered throughout the world. Tens of thousands are saying that a beloved friend has gone.—Alva Agee, New Jersey Experiment Station.

Joseph E. Wing, esteemed by all who knew of his work and beloved by all who knew him personally, was one of the rare men of his generation. Gifted with the vision of the poet, the judgment of the practical man, he toiled on in his faith that his ideals were worthy of his loyalty. One could not be in his company for a half hour or listen to him in a public address and fail to be impressed with his sincere devotion to the cause for which he pleaded. As all recognize, he was a pioneer in the movement for growing alfalfa in the central and eastern states. In this campaign he met the doubts growing out of the conservative attitude of American farmers and the speculative doubts of men influenced by theory. In both instances he lived to see the doubts steadily removed before the demonstration of success. Thousands will remember him for this triumph. All who knew him will appreciate this service to the public, but will find greater satisfaction in "Joe Wing" the gentleman. To know him was to love him.

His interest in the Ohio State University will long be remembered by the Faculty, especially in the College of Agriculture, where his services were so frequent. No speaker was more appreciated by the students who from year to year were privilege to hear his lectures. We shall miss him as few men are missed, nor shall we soon see his like again.—Dr. W. O. Thompson, President Ohio State University.

Feelings more inclusive and significant than mere intellectual appreciation have moved thousands of readers of current agricultural literature to send messages which mourn the loss of Joseph E. Wing. His rare quality of being able to put his personality into his writing so that his readers attached him as a personal friend, has actuated scores who never saw his face to send messages of appreciation of him both to his professional home, the Breeders' Gazette, and to his family home at Woodland. No man who tries to measure Joseph E. Wing by his contributions to Agriculture, as we understand that term specifically or technically, will get the true measure of him, great as those contributions were, for he sowed and reaped bountiful harvests in places where but few could sow and reap at all. Almost everywhere in our country, farm men and women aching and stiff from the toil of the day, have time and again begun their night's rest by reading his words of good cheer, which reached out to them like a hearty handclasp of congratulation upon the noble toil that had filled their day. Too weary to read the words of anyone else, yes, but they could follow him, and as he placed benedictions upon them, he also dropped ideas that lodged in their weary brains and helped them in subsequent days of toil. Thus many a farmer and his wife can trace their first great awakening to Joseph E. Wing. His influence, as we all know, went far beyond the confines of his native state. Ohio will miss him sadly, to be sure, yet her grief will be the less poignant because she rettains the glory of having produced this great democratic disciple of agriculture who went far and near doing good—W. C. Coffey, University of Illinois.

Joe Wing had a unique personality—a peculiar and most unusual mixture of kindness and aggressiveness; practicality and idealism; tenseness and relaxation; seriousness and light-heartedness. Above all he was a distinct optimist. He had a clear insight into human nature and took advantage of it many times—always in a fair and kindly way—to make his point. He was known mostly as a writer and a speaker, but anyone who really understands, knows that in order to express himself convincingly one must have soul behind what he says. That was the secert of Joe Wing's strength and of his success. He put his soul into his work—his whole soul—and he had a big one. Many times I have seen him get right down on his knees when talking about the soil or about nodules on alfalfa roots, and his hearers would be with him. They would actually mingle their beings with their subject. When he talked of ideals he seemed to rise and take his hearers with him as he spoke. He was not a man of great scientific attainments, as such things are rated. But he was possessed of a fund of information far above that of the average scientific man. What he had was more valuable than mere science. He had a real heart and a big soul. Against these there is no rampart sufficiently strong.—John F. Cunningham, Editor The Ohio Farmer.

Joseph E. Wing was not so much interested in sheel and alfalfa as he was in bringing the great body of our farmer folk to appreciate their high place in the body politic of our nation; not so much interested in improving the soil as he was eager to assist in the intellectual upbuilding of the tillers of the soil.

There was no trace of any unworthy aspiration for the leadership, no ambition for place or power, except as he might use these to influence young men to a larger understanding of their opportunities for service. His scholarly attainments were for the benefit of his wide circle of readers, who looked for his message week by week, and for whom he gave without stint of his rich store of knowledge. Alert, keen, judicious, these qualities of mind were always accompanied by a gentle persuasiveness which appealed to his hearers, as of one who had in mind not merely the accomplishment of a purpose, but the sincere welfare of the people he served throughout our land.

No one who has ever heard the merry chuckle of our friend who is gone but will recall the infectiousness of it. He was gifted with a quiet humor that acted as a safety valve for the pent-up fun which was part of his nature. He could always see the humorous side of a situation. His account of his South American eqperience, as he has given it in his book, "In Foreign Fields," is replete with comment from his journal, turning anticipation of trouble or embarrassment into a laugh, not **at** but **with** the individuals of his chance meetings. He could be serious, and the volumes from his pen attest the seriousbe Stanley Dark's couplet—

> We're all meant to be happy—not too foolish or too staid;
> And the right dose to be taken is some sunshine mixed with shade."

—David Grant, Illinois Trust and Savings Bank, Chicago, Ill.

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OF

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COLUMBUS, OHIO, OCTOBER, 1915.

EDITORIAL

AUTUMN.

This is the harvest season; the time that we can gather the balance of the summer's produce; the season when we reap what so long we have watched over and waited for. The corn crop is ready for the husking, for the cribs, and for the feeding lots. Apples and pears are waiting to be taken to the storage cellar or the press. The wheat fields, meadows and pastures are green with their autumn growth; this reminds us of the springtime and links the fading season with the hopes of the new.

Autumn is a time for rejoicing; a season of happiness and thanksgiving. We thank Him who has so graciously provided for even the least of us. We know we have passed through a prosperous season and we have renewed hopes for the future. Yet, withal, there is, to most of us, a feeling of melancholy. The birds are to be with us in numbers for a short time only. Their lot lies in the hope of a warmer clime and soon they will be gone. The thought bespeaks the lonesomeness of the approaching winter. The leaves of the trees are marked with their dying colors, and we are reminded that they, too, will soon have completed their period of usefulness and will fall to earth, only to wither and decay. It is the beauty of death, however, for their work is completed and well done.

Again we allow our thoughts to go back, somewhat sadly, somewhat longingly, to the happy autumns of former years; to the glorious days we spent in search of nuts and paw-paws. We

think those were the happy days and they are but a memory. As a second thought, however, we realize that we cannot live in the past, but must dwell in the present and build for the future. We are reminded that we are entering the summer season of our lives. We wonder if, in the years to come, we shall be able to look back upon these college days of the period of our preparation with the approval of our mature judgment? Let us ever strive and build that we may!

The season reminds us of the aftermath of life. If we have labored well, if we have done everything to the best of our ability, why be sad and dreary? Rather let us be glad and thankful, as is nature today—let us raise our hearts and voices in thanksgiving for the rewards of the season of toil and labor!

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GREETINGS.

To the students in the College of Agriculture, The Agricultural Student extends a hearty greeting, wishing that you will enter into the activities of the college year with zest and with a spirit that will boost Ohio State. With an enrollment of nearly 6,000 in the University, one-fifth of which are in the college of agriculture, you are by no means among the least, and you should be at the point of doing something for your school.

Remember that the college of agriculture is not confined to the campus, but that, under its direction, comes the work of the extension schools, the farm bureau work, the farm institutes, and the agricultural surveys and demonstrational work. Remember that at some time it will be possible for every one of the 272,000 farmers in Ohio to secure the services of the college if they desire it. The correspondence courses will bring thousands in direct connection with the college, to say nothing about the advantages offered by the short courses and Farmers' Week.

It is a real honor to attend such an institution as the college of agriculture, where the fine art and science of husbandry is taught, and where you can come in contact with the leaders in the agricultural work of the state of Ohio. It's up to you to take a part in college affairs and maintain the Ohio spirit.

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COUNTY EXPERIMENT FARMS.

There is considerable comment, both pro and con, regarding the county experiment farms in Ohio. Some very desirable and satisfactory work, however, has been accomplished through them in an effort to localize some of the practical results of work done at the main station at Wooster. A great deal of information regarding the chemical needs of the soil in certain sections of the state has been worked out by the Ohio Experiment station through the co-operation of county experiment farms and other substations. This information is of great value to all the farmers of the particular locality in which the respective experiments were made. Thus the experimenting has been done on common property at common expense to those who are to reap the benefits. The same is true of many other agricultural problems and improvements. Among these may be mentioned that of testing the climatic adaptations of new and promising varieties of cereals.

As with most new institutions, there are to be found many who favor and many who oppose the county experiment farm. Of the enthusiasts, one man who formerly scoffed at the idea of an experiment farm in every county, has recently gone so far as to say that he

expected to live to see, not only an experiment farm in every county, but in practically every township. One the other hand, some of our most progressive men in agriculture seem to oppose the establishment of county experiment farms and insist that the localizing of experimental results should be carried out on private farms by the county agriculturists. This difference of opinion is sure to result in some change in the present program. The effect will probably be simply to serve as a check upon the establishment of new experiment farms until those already in operation have time to produce results that shall indicate to scientific leaders and to the public in general just what shall be the most efficient and satisfactory method of carrying the findings of the State Experiment Station to the farmers in all sections of the state.

It seems quite probable that the proposed unit for localized experiment farms is too small for efficient work, and that the solution of the problem would be a good, well organized, well manned station for one or more counties, depending upon location. These might be arranged so that the experiment farm would represent fairly both the soil types and climatic environments of the counties concerned, and by a more complete and specialized staff work could be carried on so that the results would form a reliable source for the respective county agriculturists to draw upon. In some cases several counties could be grouped together, and in others it would be necessary to have an experiment farm for practically each county, but of course the latter could not be so well equipped. With the proper establishment of local experiment farms, the county agriculturist would be relieved from the work of carrying out the experiments and could devote more time to his fundamental task.

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STUDENT SOCIETIES.

Just one word, Mr. Ag Student—before you settle down for a year's study—remember that there are a number of student organizations on the campus which deserve your support, and which will give you a training equal to any four hour course in your curriculum.

First, the Agricultural Society, which controls the publication of The Student, should have your name on its membership roll. During the year monthly lectures will be given by prominent agricultural men. These will deal, in a broad way, with the growth of agricultural affairs in the state of Ohio.

Among the purely technical societies there are the Saddle and Sirloin club, the Horticultural society and the Agricultural Engineering society. It will pay you to attend the meetings of every club and to identify yourself with the one in which you are the most interested at least, since all deal with live subjects which are closely connected with classroom work.

Townshend Literary Society, which has been organized for about sixteen years, will offer you a chance to secure a literary training. It is the place where all loyal Ag students gather together every Monday evening for debates, declamations, etc.

Active work in one or more of these organizations will afford opportunity for self expression, initiative and leadership, three essentials which every student should possess at graduation.

PRINCIPLES AND POLICIES IN CONTEST WORK

Soil and Kitchen Enterprises Form the Basis of All Activities.

O. H. BENSON, U. S. Department of Agriculture

THE soil is the basis of life itself. The kitchen is the basis of organized domestic life. Is it any wonder, then, that we, as a body of leaders of boys and girls, have organized our club projects on a basis of soil and kitchen enterprises? Whatever else we may believe with reference to the proper methods of conducting school gardens, home gardens, club projects, contests and other activities for the development of character and efficiency in the boys and girls of today, we are all agreed that real home life, as well as successful citizenship, is very closely related to the soil and to mother's kitchen.

It is not necessary, by the way, that all educators engaged in the same or one specific line of extension work. Unfortunately a great many of our leaders and institutions seem to feel that agriculture furnishes the only means of definite and constructive extension service. This, perhaps, is largely due to the fact that it has been so well established by the colleges of agriculture and the U. S. Department of Agriculture, and at the present time it is ramifying, in some form or other, every nook and corner of the country. But there is just as distinct a line of extension work for the university, the teachers' college or normal school, the high school and the one-room country school, as there is an extension duty on the part of the college of agriculture.

The Boys' and Girls' Club work is a definite movement to direct the interests and activities of children toward and **in the home.** There is great need in these days of concerted action on the part of the public schools and all other people in the business of leading or directing the activities of young people to recognize **the call of the home.** In many communities it would seem that all of the people engaged in the leadership of the young, including the Sunday school superintendents and their teachers, pastors, public school teachers, social center workers, Boys' and Girls' Club leaders, scoutmasters, etc., are vying with one another in the effort to see how many waking hours of the day the child can be entertained and interested in things away from the home.

You will understand that this is not in any way objecting to or knocking the movements or the professions referred to, as I include in this list our own club leaders, but is an effort to point out a weakness on the part of many leaders to ignore the rights of parents to have their children at home and in the environs of home a reasonable length of time during the year. A club leader who plans his club activities to take the boys and girls away from home to club meetings many evenings and Saturdays during the month is doing a positive injury to the cause that the club represents. The boy-scout leader who takes the boys out to scout meetings many evenings and on Saturday hikes, for the sake of hiking, is doing the boy-scout movement a great injury, and it seems to me that, as a body of educators in the business of training teachers and leaders, we need to outline plans and methods for the benefit of the boys and girls that lead to the back yard, the kitchen, the

dining room, the barnyard and the home hearthstone.

For nearly a quarter of a century the organization of boys and girls' agricultural and home-interest clubs has been under way in the United States.. The movement, though a worthy one, has suffered many reverses and, like other leaderless movements of the past, they have had their "rise and fall." Much of this has been due to the fact that they had no paid and well-trained leadership, no constructive national policy, and the constant coming and going of county superintendents, teachers and local leaders and the lack of continuity in club efforts and policies.

In most cases the club efforts were of academic nature and gave little or no incentive for continued effort. The first club work undertaken was by a few county superintendents of schools in Illinois, Nebraska, Iowa and Indiana. The club work as a national project for the purpose of **demonstrating correct farm practices and economic production** was undertaken by the U. S. Department of Agriculture in the South about eight years ago and in the North, Central and Western States less than three years ago. The club and home projects as promoted by the U. S. Department of Agriculture are in direct co-operation with the state institutions and state officials, usually through the extension service of the State College of Agriculture.

Club Work Essentials.

Club work to be constructive and successful must have:

1. A practical plan of industrial training that contemplates a demonstration of good farm and home practices and should show a net profit on the investment of time, money and energy for every club member. In this way every club member becomes a **prize winner** and the entire agricultural community will be instructed and benefited by the club demonstration.

2. Well prepared leaders are necessary to the states, whose duties are to inspire, organize, instruct and direct the club activities at all times of the year.

3. A carefully prepared system of follow-up instruction for each club project and transmitted at a seasonable time and in small installments during the year.

4. A system of instruction in bookkeeping as outlined by teachers and in the usual annual crop report blanks.

5. A local fair or club festival, where play contests related to club members through the crop and products exhibits may have opportunity to study the practical results of the county club and the demonstrations at close range.

Some Evidences of Good Club Work.

The following may be considered as part of the "acid test" of real leadership in this home project work:

1. Increased interest and enrollment from year to year.

2. Increased acreage, yield and net profit to club members for each succeeding year.

3. Increased number of club members remaining in the club projects for a period of years, and projecting their interests and activities into other farm and home activities.

4. A larger number of young people in attendance at agricultural colleges and other institutions of learning and the return of a larger number of these students to rural life as farmers, home builders and local leaders.

5. Improved members, better homes, schools, roads, and greater interest in the broader educational and social activities of farm life.

6. Increased financial support to the club work, because of practical and tangible results in the work and its direct benefits to American agriculture.

What Is Club Work?

Club work as a junior extension service is a back-to-the-home movement for the performance of a definite farm, garden or home interest enterprise and contemplates the organization of the boys and girls into local clubs, these local organizations to be federated into county, state and national clubs.

The club work is divided into many special activities, called projects. Club projects are usually outlined with a view to covering a season's work of from six to nine months. When the school exercises and additional contests as related to the club projects are undertaken the work can very easily cover an entire calendar year.

The following activities in corn, poultry, home garden and canning, potato, market garden and alfalfa will illustrate what is meant by club projects. In all of these club projects, in addition to the educational interests, the business management of the work should be based upon economic practices and should make possible a net profit on investment of time, energy and money. This will necessitate the careful study of instructions, making of observations, keeping careful records, making exhibits, preparing for the market, and in it all to illustrate what is right on the farm, in the garden, or in mother's kitchen.

The scope of the Boys' and Girls' Club project work can be very nicely illustrated by the following outline of the activities of a potato club, as carried on for the past three years in a large number of states in the North, Central and West.

In the first place a campaign of enrollment and organization is taken up by our state, district or county leaders in club project work, in co-operation with the county superintendent of schools and the teachers of the county, explaining the potato club work as a home project and as an extension service of the public school definitely connected with the problems of agriculture and home economics. During this campaign meetings are held in schoolhouses for the purposes of explaining the movement and enrolling the members, ranging in age from 10 to 18 inclusive.

This is followed by an organization of the membership into a local group to meet once a month at the schoolhouse to discuss the problems of interest related to the project. This local group will have its club officers, committees, constitution and by-laws. The public school teacher or some locally appointed leader will serve as the mainspring of this movement, to keep up that interest and direct the activities at the monthly meetings. If possible, these meetings should be held during the daytime Friday or Saturday afternoon.

All the club members in the project will receive from time to time, from the College of Agriculture, through the extension department, a system of follow-up instruction, sent through the mail in small installments, covering the entire season, from the preparation of the seed bed to the marketing of the products, or the use of the products on the home table.

In addition to studying the "follow-up" instructions, field meetings and personal visits from club leaders should characterize the other phases of the "follow-up" work required for success in the club project. Members are taught through these agencies not only how to

grow the crop but how to grade, crate and market the fresh products, manufacture the small potatoes, culls and peelings into home-made starch, and then, by furnishing them 12 recipes, they are taught how to use this starch for practical purposes in the home. They are taught how to select and care for the seed, how to treat for scab and how to keep a complete record cost or accounting of the receipts and expenses as well as a general observation of the season's work.

In the fall of the year, and usually in connection with the school, a potato club festival is held. At this festival the following interests will characterize the day's work:

Exhibits of all kinds of potatoes and potato products.

Compositions on "How I Made My Crop of Potatoes and Found a Market For Them."

Illustrated booklets used in correlation with the subjects taught in school, as arithmetic, physiology, etc., are also exhibited.

Manual training products of all kinds as related to the potato club industry. An exhibit of potato implements, potato dishes, showing the use of the potato for food purposes.

In addition to the exhibits, demonstrations of how to select seed potatoes, how to grade and crate, how to treat for insects and diseases, how to make potato starch, and domestic science demonstrations on how to use the starch and potatoes in the preparation of various dishes.

The College of Agriculture, Department of Education, Normal Schools and the U. S. Department of Agriculture usually participate in this program by furnishing lecturers on interests as related to the potato. Following the lectures of the day, play contests are held, in which the children participate in potato races, potato paring contests, starch making contests, potato judging, variety naming contests, etc.

I have outlined this potato club project in brief in order to give you a glimpse of the scope and possibilities of one of these extension lines as an agency for connecting intimately the interests of the public school with the interests of the farm and home.

You will notice that I make a distinction between a **club project** and a **club contest.** A contest is a fractional part of the club project work of the season, an exercise that can be undertaken and finished in a comparatively short time.

Some Objects of Club Work.

1. To offer to the young people of rural and city life careful guidance or industrial training in agricultural and home economics and thus lead eventually to a better type of American farmer and home builder.

2. To demonstrate through the work of boys and girls what is right in farm and home practice.

3. To offer a definite plan of extension work to the rural and common schools in all of the direct interests of agricultural and home economics, and to have this extension service eventually supported by paid leaders or specialists, who will offer their service to the teachers in the general conduct of this home project work.

4. To demonstrate the best method of elimination of the wastes of food products of orchard, field and garden.

5. To offer to the available leaders an opportunity for large social service work in the conservation of boys and girls in their home life as well as the conservation of American agriculture.

6. To teach habits of industry and thrift by giving them instruction and definite direction on how to earn a dollar as well as how to use it, as a result of their own investment of time, money and energy.

School Credit For Club Work.

It is urged that as far as possible the superintendents and teachers in charge of the school systems of city, county and state will arrange to reward real achievement in club work by giving recognition by means of credits to all who **enter, follow instructions, keep a complete record**, and show a net profit on investment for the season's work. This can be done in several ways:

1. By grading the club crop report and the written essay on "How I Made My Crop," presented by club members, and accepting this in lieu of a written examination in the work of elementary agriculture or home economics.

2. By grading the papers on a basis of 100 per cent and accepting the grades in this report as a substitute for one of the other subjects required in the regular school course.

3. We consider that the boy who raises an acre of corn, manages a market garden and does all the work, keeps his records well and writes a story, exhibits his products, has received more training and benefits agriculturally than he would by a year's study of a text book in a class of elementary agriculture. It is not necessary, however, to accept the club work in lieu of the text book requirements of the course, but merely as a substitute for the written examination at the close of the year.

A third plan of allowing credits on club work should be to allow a certain number of points, aggregating say 200, which would be possible for every club member to win in connection with his club endeavors of a season. For every 50 points won in the club allow from 1 to 5 per cent to be added to the final grades in all other related subjects undertaken for the school year.

If we are interested today in the training of the whole child in the school and the home in a slower and more sympathetic relation, and in clothing this important institution with power to add effectively to the proverbial three R's, the things that constitute health and human efficiency, you will say with us that anything that will help the public schools to train equally well the head, the heart, the hands, and the health of the child, is not only worthy of our consideration but should have our enthusiastic support and faithful endeavor as leaders and teachers of America's future citizenship.

ANIMAL HUSBANDRY ITEMS

C. T. CONKLIN, '16

A commendable feature of the State Fair was the "open house" maintained by the Ohio Live Stock Breeders' Association for the comfort and convenience of the live stock men. B. E. Carmichael, chief of the animal husbandry department of the Ohio experiment station, was in charge, and with the help of an interested force vigorously campaigned for members.

An evening meeting was addressed by B. E. Carmichael, Prof. Charles S. Plumb, Renick W. Dunlap, Peter G. Ross, A. G. Soderberg and Sam Clever. Plans for extending the work were discussed and a resolution passed asking the fair board to provide for headquarters on the grounds. Optimism was expressed on the outlook for the livestock business in Ohio. The members of the board of agriculture were commended for the manner in which they had conducted the fair.

FOURTH EASTERN PERCHERON FUTURITY.

Nineteen filly and seventeen stallion colts graced the ring of the fourth Eastern Percheron Futurity at the Ohio State Fair. The number and quality of entries, the substantial premiums and the interest of the crowded ringside must have been gratifying indeed to the faithful few who have finally succeeded in placing this Percheron show on such a firm foundation. A. G. Soderberg, of Osco, Ill., and W. W. Crull of Crawfordsville, Ill., tied the ribbons, while A. W. Green, of Middlefield, served as referee of the stallion class, and Samuel Bell, of Wooster, settled the disputes in the filly exhibit.

C. M. Jones, of Plain City, carried away the blue in the stallion class with Algernon, a true-going, drafty son of Aiglon. This handsome colt was bred by C. L. Camp, of Romeville, and is a full brother to the winner of last year's futurity. It would be difficult, indeed, to find another individual combining such size, goodly proportions, quality and size of underpining with such a free, easy-going manner of travel.

Spitler & Sons, of Bloomville, stood second with Carnot Jr., a black son of Carnot, that had plenty of size. Mignon, sired by Harcourt, won third money for McClain & Sons, of Lima.

In the filly class, Wm. Priest held the premier position with Mabelene, daughter of Calculateur. This black filly is a happy combination of size and roominess, with good feet and legs, and has the ability of swinging away in vigorous style. Carey Brown's Ann, sired by Jausseau, stood second, and had so many commendable features that she headed the line for quite a while. Woodside Nancy, belonging to W. H. Butler, was the third choice. She is a likely looking youngster with an abundance of quality and action that carries her over the tanbark with an irresistible flash.

The Guernsey bull, Governor of the Chene, recently died in his fifteenth year on the farm of his owner, Mr. T. LePrevost, of Guernsey. No island Guernsey bull has such a record for show winnings and advanced registry work of descendants: 39 daughters, 11 sons, 25 grandsons and 108 granddaughters are in the advanced registry. His greatest granddaughter is Daisy Moon, which recently completed a record of 18,019 pounds of milk and 928.39 pounds of butter fat at the Anna Dean Farm, Barberton, Ohio. Fortunately for the Guernsey world, Governor of the Chene has been very successful in transmitting his good qualities to his progeny.

At present correspondence courses in poultry husbandry by Professor F. S. Jacoby, and sheep farming by Tom C. Stone, are offered by the extension department. Mr. Joel S. Coffey is preparing a course on swine husbandry, which will be available about May 1, 1916.

Owing to the foot-and-mouth disease, California has barred Ohio cattle from its borders. At present there is a temporary embargo on sheep and swine, with no indication that it will be lifted. As a result of this action the Shorthorn herd of Carpenter & Ross, of Mansfield, and the Aberdeen-Angus herd of Brown & Ayres, of Hillsboro, will not be shown at the Panama-Pacific Exposition, as was expected.

STUDENTS' JUDGING CONTEST.

On Tuesday, September 1, fourteen students of the College of Agriculture participated in the judging contest at the Ohio State Fair. The prize money of $100 was divided into four classes of $25 each, with three prizes of $10, $8 and $7 in each class. The money awards were as follows: L. M. Evans, $28; D. P. Evans, $25; J. C. McElwain, $18; C. M. Baker, $15; Markey, $7; C. T. Conklin, $7.

The horses judged by the students consisted of four yearling Percheron stallions and four yearling Percheron fillies, the property of members of the Delaware Percheron Breeders' Association. The cattle classes were made up of four mature Holstein cows from the herds of the State Institutional Farms, and a ring of junior yearling Shorthorn heifers. The sheep consisted of a ring of yearling Hampshire rams and a class of aged Shropshire ewes. Four Yorkshire gilts and a pen of Poland China boars presented the problems of the swine judging.

The results of the judging of the classes were as follows:

Horses—First, L. M. Evans; second, J. C. McElwain; third, D. P. Evans.

Cattle—First, D. P. Evans; second, L. M. Evans; third, C. M. Baker.

Sheep—First, L. M. Evans; second, C. M. Baker; third, C. T. Conklin.

Hogs—First, J. C. McElwain; second, D. P. Evans; third, G. B. Markey.

The contest was directed by J. S. Coffey, Tom C. Stone and Schuyler Salisbury, all of the department of animal husbandry.

THE GRAND CIRCUIT RACES.

From the breeder's standpoint, the most important feature in the Grand Circuit Races, which were held at the Columbus Driving Park from September 21 to October 2, was the large number of entries in the slower classes. More horses were quartered at the track than ever before. It would seem that the breeding of harness race horses is on the increase. This is undoubtedly true in the case of the large speed nurseries, although the farmer-breeder is in less evidence than formerly.

Very little record-breaking was done, owing probably to weather conditions, but in only a few instances were the races "one horse" contests.

The most outstanding winner of the meet was the hitherto unknown Mary Putney (3) 2:07¾, by San Francisco 2.07¼. She was easily first in the class of two stables for three-year-old trotters. Her breeding, however, shows a strong infusion of Thoroughbred blood, tracing back through the great McKinley to George Wilkes on the sire's side and to Esther II dam, a Thoroughbred.

This Thoroughbred cross was one of the breeding principles used by Senator Stanford at his famous Palo Alto farm in California, where Mendocia, the dam of Mary Putney, was bred. Many present day breeders regard a touch of Thoroughbred blood as a strong point in the pedigree of a futurity prospect. The saying "that blood will tell" is brought out clearly in colt racing. One is impressed with the exceptionally great number of well-bred colts in training, the majority of which trace back to Hambletonian 10.

Mary Putney is the product of the Walnut Hill Farm, Donerial, Ky., from where so many sensational colt trotters have come.

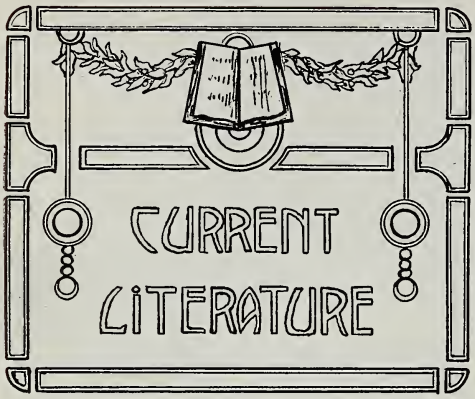
The pleasure afforded to owners of truly great horses when they return winner of a brilliant horse race, was exemplified when C. H. Sears of Fall River, Mass., owner of Mary Putney, was presented with a huge $500 loving cup.

Another breeding establishment for the production of futurity winners is the Patchen Wilkes Farm at Lexington, Ky. Here Volga II, 2:09¾, and Peter Scott, 2:05¼, were bred, both being sired by Peter the Great Volga, a winner of both two-year-old trotting futurities, is a sister of Peter Volo, the champion two, three and four-year-old trotting stallion, and is considered faster than her illustrious brother at the same age. Peter Scott, champion money winner of the season, is an example of the perfect race horse. After winning the $10,000 Hoster-Columbus stake, Mr. Murphy, his driver, remarked: "There is a horse that cannot make a mistake."

The three-year-old pacing colt, General Todd (3), 2:04¼, a double winner, is a grandson of the dead sire, Todd, 2:14, and bids fair to become the first four-year-old 2:00 pacer.

The desire that is in the heart of every horseman—to breed a fast colt—latent as it may be, is deeply stirred by the sight of such horses as Mary Putney, Etawah and Peter Volo, and it is this desire that keeps many men in the game, however unprofitable it may be. Money is not to be compared with the real joy of breeding and owning a winner, and no victory is sweeter than one in a hard fought horse race.

JOSEPH B. MARKEY.



"Electricity For the Farm," by Frederick I. Anderson, shows that with very little expense the farmer may have all the benefits of electricity for light, heat and power, either by installing a simple gasoline engine or by using the neglected brook that runs through the farm. The book is divided into three parts — water-power, electricity, and gasoline engines and windmills. In addition it takes up storage batteries. It shows how streams are harnessed to develop power, how dynamos work, how house wiring is done and how storage batteries and battery charging devices are manipulated. 250 pages, $1.25. The Macmillan Co., New York.

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"How Farmers Co-operate and Double Profits" by Clarence Poe, is a new book dealing with rural credits, co-operation and the farmers' club; it gives many of the features which have been responsible for the success of producers' organizations. The author has made a complete study of co-operative societies in Ireland, France and Denmark and visited many states for the purpose of ascertaining just what is being accomplished in every line of agricultural co-operation. The results of these investigations are given in a clear, concise manner, which point the reasons for their success and how the same systems could be applied to every community. 250 pages, $1.50. Orange Judd Co., New York.

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"Practical Talks on Farm Engineering" by R. P. Clarkson deals with the farm buildings and building materials, farm water supply and sewage disposal, farm power, drainage and irrigation, and takes up miscellaneous talks on road building, orchard heaters, lightning rods, etc. Its aim is to present the material in an interesting and popular form for the use of farmers who have not inclination to wade through mere technical volumes on the subject. The book deals with the features which have been found to be most perplexing to farmers for the past two or three years. 220 pages, 43 illustrations. Doubleday, Page & Co., Garden City, New York.

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"Principles of Floriculture" by E. A. White deals with the principles which underlie the successful culture of ornamental plants and presents these in such a manner that the book is valuable in the class room. It will also be of service in a practical way to practical men. Among the topics discussed are: the importance of the plant and flower growing industry; principles and methods of constructing and heating glass houses; factors which influence healthy plant growth; business principles in marketing flowers; glass-house insects and their extermination; diseases of plants and their remedies and the factors which underlie successful culture of standard florists' crops. 460 pages, $1.75. The Macmillan Co., New York.

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"Laboratory Manual of Horticulture" by George W. Hood offers a sys-

tematic and concise outline for the laboratory of the most important operations underlying the fundamentals of horticulture. The book contains exercises on seed and seed testing, principal methods of propagation, cutting, budding, grafting, identification of fruit buds, manufacture of insecticides and fungicides, the analysis and comparison of the principal fruits and the value of some of the important varieties. 230 pages, $1.00. Ginn & Co., Boston, Mass.

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"Rambles 'Round the Campus" by Melvin Ryder, '15, is a book which will interest every graduate of the Ohio State University and every reader of The Agricultural Student. The author has delved into the treasures found on the college campus and about the college community with an originality of style, a frankness-coupled-with-friendliness tone combined with a sort of journalistically pungent manner of expression that is at once pleasing and refreshing. There are fifty-one sketches, each recalling, reminding, beckoning to the college campus you know or have known. These sketches bring back college days and introduce the reader to his outgrown and perhaps forgotten self of yesteryear. $1.00. The Agricultural Student, Columbus, Ohio.

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"The State and the Farmer" by L. H. Bailey, has a particular interest for the farmer, for the student of economics and also for the general reader. The book is an expansion of the principles expressed in a paper delivered as a presidential address before the Association of American Agricultural Colleges and Experiment Stations at Lansing, Mich. It deals with the recent changes in the agricultural methods, in the shifting of the geographical centers of farming in the United States and in the growth of agricultural institutions. $1.25. The Macmillan Co., New York.

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G. Harold Powell's "Co-operation in Agriculture," in the Rural Science Series, of which Professor L. H. Bailey is editor, is a discussion of the principles that underlie the organization and management of the American co-operative associations in agriculture. The author first discusses some of the legal questions involved, the financing and management of such organizations and the co-operative problems as a whole. These principles he illustrates by showing how they are applied to certain agricultural crops, such as animal and plant improvement, the handling of grain and dairy products, the sale and distribution of crops and the co-operative purchase of supplies. $1.50. The Macmillan Co., New York.

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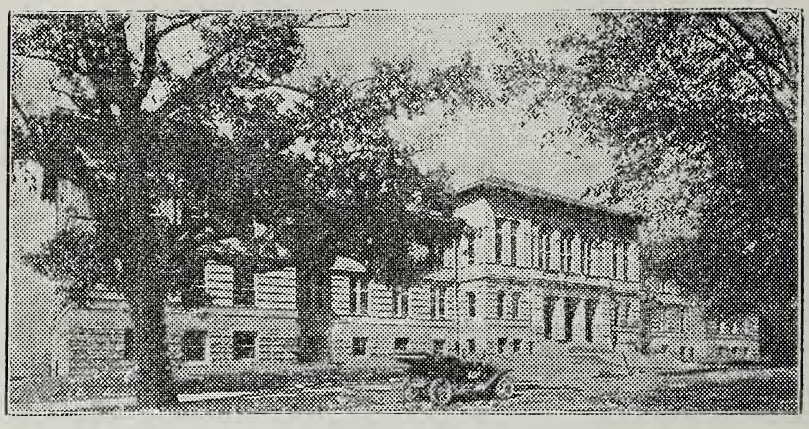
"Veterinary Studies for Agricultural Students" by M. H. Reynolds, treats of the diseases of animals in a clear and concise manner, dealing especially with cause and prevention. It treats especially of those diseases which are uniform in symptoms and history and therefore easily recognized and treated. In addition it deals with anatomy, pathology, infectious diseases, dietetic diseases, obstetrics and medicine. Hog cholera, foot-and-mouth disease, Texas fever, tuberculosis, asoturia and foot rot are discussed under diseases. 280 pages, $1.75. Orange Judd Co., New York.



HORTICULTURAL NEWS

ISAAC P. LEWIS, '17

HORTICULTURAL NEWS.

From a horticultural point of view the Ohio State Fair of 1915 was far above that of other years. There were more apples, and the quality of fruit, though perhaps lacking some in color, was far above the average. The line of floral displays far surpassed that of other years, and in fact never before has there been so large or attractive a display of floral designs at the fair. The booth exhibits were of especially high character, the two most attractive being those of Kesler-Barr Co., Carroll, Ohio, and Mr. George Eaton, Proctorville, Ohio. The county exhibits were also of high standard, the first prize going to W. W. Farnsworth, Lucas County, and second to U. T. Cox of Lawrence County. Mr. Cox, perhaps, had the largest exhibits, and won more total money than any other single grower. Of the boral displays the Liv ingston Seed Co. and the Indianola Floral Co., both of Columbus, were the most successful, taking the first two prizes.

The horticultural exhibit of the Ohio Experiment Station was also of more than ordinary merit, a special feature of which was the exhibiting of the different varieties of apples on small metal trays, thus allowing a larger number of apples to be shown and making a more true representation of the variety. Another exhibit which attracted no little attention was that shown by F. H. Ballou, representing in a very clear and artistic manner the work of the Experiment Station along the line of archard fertilization and mulch production in the hill section of southeastern Ohio.

The judging of the fruit was exceptionally well done and universal satisfaction was expressed by the exhibitors, which is much to the cerdit of Mr. J. B. Keil and Mr. R. A. Hunt, who acted in the capacity of awarding judges. Much credit is also due to Mr. T. B. West, member in charge, and Mr. F. H. Stevens, superintendent, for the success of the horticulutral displays.—Isaac P. Lewis.

Tom Smith, '13, is manager of a large mountain orchard in the vicinity of Cumberland, Md. He has just finished the marketing of a fine crop of peaches and reports good success in his work.

C. E. Burkholder, '15, has taken a position as manager of a large estate in Michigan. His principal duty is the care of a large orchard, together with supervision of the vegetable gardening and landscape work.

James Marple, '15, spent the summer with the Heinz Pickle Co. in Michigan. He reports a very pleasant summer and expects to engage with the same company again after completing his contract as teacher in the public schools of Columbus.

W. W. Ellenwood, '15, has taken a position as manager of the Patterson orchard near Jackson, O. He has under his management two hundred acres of fruit trees.

R. C. Jordan, '14, was a visitor at the University recently. Mr. Jordan is manager of a large tract of land in Ashtabula County, where he is caryring on large farming operations. Among other activities he subdued a cat-tail swamp on which he grew onions at the rate of five hundred bushels per acre this year. This is very remarkable, since the onion crop this year was almost a complete failure on account of the wet summer.

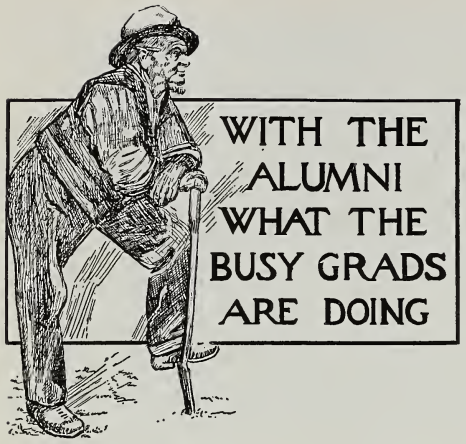
During the week of September 14, 1915, the city of Ironton, O., was the scene of a very instructive as well as attractive Apple Show and Home Coming. Eight city blocks were taken up by continuous booths of farm crops, machinery, fruit, etc. The display of apples and other fruit was exceedingly large and of high quality, color, very uniform and put up in attractive style, showing that this section of the state has well won its reputation for fine fruits. This annual Apple Show and Home Coming is not only acting as a week of pleasure and instruction for the people of this section, but it is also giving the horticultural interests a great boost, and other cities might do well to profit by this good example.

APPLE SHOW IN DECEMBER.

With three new classes of exhibits, vegetable gardening, landscape architecture and floral display, added to the University Apple Show, which will be held early in December, and the show arranged to be held over three days instead of two, the Horticultural Society is planning for the largest fruit show ever held on the campus.

At a recent meeting of the society Frank Copper, Jr., of Columbus; Frank B. Cross of Racine, Isaac P. Lewis of Wooster and Clarence E. Dutton of Hockingport were named on the show committee. Officers of the society elected for the first semester were: Frank Copper, Jr., president; Charles M. Ochs, Lancaster, vice president, and Miss Daniella Perrin, Columbus, secretary and treasurer.

Thirty students in the department of horticulture are trying out for the apple judging team which will be sent to the Inter-state Apple Show, held at Baltimore during the first week in January. Fruit kept in cold storage rooms in the horticultural building is used for scoring and judging purposes. Prof. Wendell Paddock reports that the interest in this work is growing very rapidly since the erection of the new horticultural building.



Willis Lane, '15, has accepted a position as assistant in the department of zoology at the Universityof Maine, at Orono, Me. He will also take work in preparation for his master's degree in biological science at that place.

Kenneth Hancher, '15, has accepted a position in the department of agricultural chemistry at the Michigan Agricultural College at Lansing. He received his master's degree from Ohio State on September 15.

Gaines Menching, '15, is in the department of agricultural chemistry of Pennsylvania State College of Agriculture at State College, Pa.

John C. McNutt, '07, formerly at the head of the dairy department at North Carolina College of Agriculture, is now head of the animal husbandry department at Massachusetts College of Agriculture at Amherst, Mass.

J. O. Williams, '08, who is connected with the U. S. Department of Animal Industry at Clemson, S. C., has been in Ohio for several months buying hogs and cattle for farmers in the southern states.

Henry W. Vaughn, '10, formerly with the department of animal husbandry at Ohio State University and now with the department of animal husbandry at Iowa State College at Ames, was married to Miss Nellie Blye Page of Charles City, Iowa, on September 8. They will be "at home" at Ames, Iowa, after October 15.

Gilbert Gusler, '12, and Miss Emilie Renz, assistant in department of sociology at Ohio State University, were married in July. They will live at Urbana, Ill., where Prof. Gusler is connected with the department of animal husbandry at the University of Illinois.

C. E. Dike, '15, has taken up sheep investigation work with the U. S. Department of Agriculture, and will be located in Nashville, Tenn.

Don C. Mote, '12, is entomologist for the department of animal husbandry, Ohio Agricultural Experiment Station, Wooster, Ohio.

Trell W. Yocum, ex-'16, is on the editorial staff of The Ohio Farmer, Cleveland, Ohio.

Andrew S. Wing, '15, is with the Wing Seed Co., Mechanicsburg, Ohio.

Fred S. Schrock, '15, is farming at Westerville, Ohio.

E. H. Mendenhall, '98, is a nursery and orchard inspector for the Ohio Board of agriculture. His home is in Clintonville, Ohio.

Geo. P. Samman, '15, is in the real estate business at Avon Lake, Ohio.

M. E. Davis, '13, is dairyman and herdsman at the State Reformatory, Mansfield, Ohio.

G. D. Norton, '14, is farming at Lodi, Ohio.

James B. Ward, '14, is engaged in vegetable gardening at Marietta.

James H. Allen, '14, is farming at Kenton, Ohio.

C. W. Hengst, '08, is farming at Lancaster, Ohio.

D. A. Crowner, '98, is president of the West Jefferson Creamery Co., Columbus. His home is at Blacklick, a suburb of Columbus.

V. B. Ditrick, '14, is farming a 400-acre farm at Orient, Ohio.

Clyde A. Waugh, '12, is manager of the editorial department of The Middle West Soil Improvement Committee, 916 Postal Telegraph Building, Chicago, Ill.

Evan Boggs, '09, is farming at Circleville, Ohio.

T. D. Stecker, '11, is farming at Butler, Ohio.

G. O. Swank, '12, is farming at Lewisburg, Ohio.

E. W. Bennage, '09, is with the Jarecki Chemical Co., Toledo, Ohio.

J. R. Knoop, '12, is farming at Casstown, Ohio.

W. W. Blair, '12, is farming at Hiram, Ohio.

T. D. Risser, '09, is farming 400 acres at Pandora, Ohio. He feeds a large number of cattle and sheep each winter.

Glenn Roberts, '15, is farming 200 acres at Findlay, Ohio.

LOCOMOTION IN THE NINETIES
"Duke," Broken and Driven by D. A. Crowner, '96.

L. D. Campbell, '14, has resigned his position in the farm management department of the Ohio Agricultural Experiment Station, and is now farming at New Bedford, Pa.

W. F. Jackson, '15, is farming at Delaware, Ohio.

Charles C. McCay, '88, is farming at Washington C. H., Ohio.

Everett P. Reed, '14, is an agronomist at the New York Experiment Station at Geneva, N. Y.

H. H. Richardson, '10, is secretary of the Cleveland Fruit and Vegetable Growers' Association, Brooklyn Station, Cleveland, Ohio.

H. R. Watts, '10, is assistant entomologist at the Agricultural Experiment Station of the University of Tennessee, Knoxville, Ttenn.

Stanley Sink, '15, instructor in soils at the University of Maine, writes: "Was initiated into the Buckeye Club on September 18 with a corn roast in

the pine woods. There are over 25 men here from the state of Ohio and four members of the faculty are Ohio State men. At the roast we ate a generous supper of bacon, corn and marshmallows, and concluded the feed by giving Ohio State yells and singing Carmen, Ohio."

Clyde Purdy, ex-'17, is farming at Mt. Vernon, Ohio.

Karl Hirn, '14, is farming at Spencerville, Ohio.

E. J. Nussdorfer is a fruit farmer at Avon Lake, Ohio.

James F. Walker, '14, is teaching agriculture and horticulture in a secondary school at Westtown, Pa.

Ralph J. Spitler is with the firm of J. K. Spitler, breeders of Percherons and Poland Chinas, Silver Creek Farm, Bloomville, Ohio.

M. O. Bugby, '05, is county agriculturist for Trumbull County, with headquarters at Cortland, Ohio.

E. F. Rinehart, '10, is with the bureau of animal industry, U. S. Department of Agriculture, Rupert, Idaho.

Harvey F. Johnson is farming at New Lyme, Ohio.

J. C. Hedge, '11, is the dairyman at the State Hospital, Massillon, Ohio.

P. J. McPherson is proprietor of Sunset Hill Farm, New Paris, Ohio.

Frank Osmond, ex-'16, is farming at Chesterland, Ohio.

C.C. Hayden, '98, is head of the dairy department at the Ohio Agricultural Experiment Station at Wooster, Ohio.

W. G. Yeager, '11, is located at Marklean, Va.

Edward W. Steele, '15, is teaching agriculture, manual training and bookkeeping in a secondary school at Northfield, Minn.

Clifford Moss, '15, is farming at Westerville, Ohio.

Harry Stevens, '15, is herdsman on a large dairy farm at Lima, Ohio.

S. H. Shawan, '07, is farming at Xenia, Ohio.

K. C. Egbert, '90, has resigned his position on an Indian reservation and taken up county agriculturist work in Sandusky County, Ohio.

N. K. Williams, '15, is farming at Prairie Depot, Ohio.

M. J. Doherty, '13, is teaching agriculture in the high school at Mt. Vernon, Ohio.

A. J. Henderson, '14, is with the Ohio State Telephone Co., Columbus, Ohio.

H. C. George, '07, is developing a dairy on the home farm at Okeana, Ohio.

J. C. Heckler, '15, is with the John Wildi Creamery Co., Ridgeway, Ohio.

H. A. Stevens, '15, is managing a farm at Zanesville, Ohio.

J. W. Tulloss, '14, is farming at Mt. Vernon, Ohio.

Albert O. Hayes, ex-'16, is manager of the Oakland Farm, Springfield, Ohio.

E. C. Cotton, '05, is operating a fruit farm at Elyria, Ohio.

M. R. Shellabarger, '97, is farming at Union, Ohio.

O'er the hills an amber haze;
  Banded birds on southward wing:
Russet robes on meadow-ways
  Once a-spangle with the spring;
  Hark!—a softly silver string!—
'Tis the brook, its lyric chime!
  Beauty glamours everything
In the Indian Summer time!

OCTOBER NEWS NOTES

APPOINT FOUR AGRICULTURISTS.

Since Sepetmber 1, four counties in Ohio have organized county farm bureaus and secured county agriculturalists who will look after the agricultural interests in their particular county. According to George W. Bush, head of the county agriculturist work in Ohio, the interest in this form of extension service is increasing at a rapid rate and a number of other counties are considering the organization of such a bureau.

M. C. Thomas, who has been responsible for the development of the work in Miami County for the past few years, has taken up the work in Marion County, with offices in the Chamber of Commerce at Marion. At present he is devoting considerable attention to the organization of the farm bureau through meetings and personal visits.

Joseph P. Hershberger, who received his Master's degree from the University in 1915, has taken up the work in Highland County, with headquarters at Hillsboro. The county commissioners have furnished an office for him and are assisting in the development of the bureau.

Knott C. Egbert, '90, who for a number of years has been engaged in agricultural work in the western states, has taken up the county agent movement in Sandusky County, having his office with the district superintendent of schools at Fremont, the county seat. The Farm Improvement Association in that county has a membership of 800, which, it it is believed, will form a good nucleus for the movement.

George R. Eastwood, who has been in the department of animal husbandry at the Ohio Agricultural Experiment Station for several years, will take charge of the work in Miami Connty, which was well organized under the leadership of M. C. Thomas before he went to Marion County.

Arranged primarily to discuss the important features in farm institute work, the Ohio Institute Normal, at which all the farm institute speakers in Ohio will attend, will be held at the University on October 27 and 28. Lectures will be given by the heads of the various departments in the college of agriculture, Director Charles F. Thorne, C. G. Williams and B. E. Carmichael, all of the Ohio Agricultural Experiment Station. The normal this year will be divided into four sections,

the presiding men being Dr. W. O. Thompson, Renick W. Dunlap, secretary of the State Board of Agriculture; Louis J. Tabor, state grange master, and John Begg, president of the Ohio state board of agriculture. Since the creation of the state board of agriculture, the direction and supervision of the farm institute work has been given over entirely to the extension department.

Over 120 fertilizer demonstration meetings were held during the summer by the extension department of the University, the average attendance at each being from 15 to 20. According to the leaders of the meetings this number is ideal, since it allows all to ask questions regarding the use and application of fertilizers. Two years ago about 30 meetings were held; last year, over 60, the number doubling again this year. Nearly every county in the state had one or more demonstrations.

Forty-two junior judging contests were conducted by the extension department this fall, the attendance at each contest averaging about 30. Three prize winners from each county in which a contest was conducted will be given a free trip to Farmers' Week in February, when a state contest will be held. Medals will be presented to the winners of this contest.

With a steam shovel reducing the grade from Townshend Hall to the Neil avenue entrance, the work in paving the street between these points is under such headway that it will be completed within thirty days. When completed, the street will be considerably wider than formerly; it will be neatly curbed with parking places for automobiles at the Botany building, Horticulture and Forestry building and Townshend Hall. New streets from Twelve avenue to the Ohio Union and from the Ohio Field to Lord Hall were completed during the summer.

With 50 gallons of cider, 25 dozens of doughnuts and several bushels of apples as a drawing card, 200 ags crowded into the Townshend Literary room on Monday evening, September 27, for the first meeting of Townshend Literary Society this year. After speeches were given by Clark S. Wheeler, Professors Alfred Vivian, Paul L. Vogt, Robert B. Stoltz, Schuyler M. Salisbury and a reading by Thomas C. Stone, over 50 handed in their names for membership in the society.

Officers elected for the first semester were: Leon M. Evans, president; Melby W. Brady, vice president; Volney G. Applegate, secretary; R. S. Christen, treasurer; Clayton H. Elliott, critic, and Dexter N. Lutz, censor.

Problems in marketing, storage houses, the middlemen, retailing, market houses and ownership and tenantry are features of investigations which will be carried by students in the advanced class of rural economics during the year. Prof. Paul L. Vogt, who became the head of the department of rural economics on September 1, has outlined a number of projects, including the above, which will be studied from an investigational standpoint. While the work at the present time will be confined to the vicinity of Columbus, it is planned to begin in a small way state-wide investigations through the co-operation of the grange, a number of church organizations and co-operative societies.

Each student, or group of students, will be detailed to special subjects, the final results of which will be given a

thesis. These records will be kept in permanent form at the University, where they may be used as the basis for reference or further investigation.

Giving in brief the news and projects of the county agent work in Ohio, the Ohio Farm Bureau Monthly appeared on the campus for the first time October 1. This publication is a five-page, neostyled sheet, which will be sent to all the county agriculturists, farm organizations and co-operative societies in Ohio. Two hundred and five copies were gotten out for the first issue.

With a 60-foot crane aiding in the excavation work for the Home Economics building, the work in laying the foundation is being pushed to such a degree that the structure will be completed by September 1, 1916. The building will be built of terra cotta, brick and concrete and be fireproof throughout. The plans of the edifice were sent to universities throughout the United States for criticism and the completed building is expected to be the best of its kind in the country.

OVER 1,000 IN COURSES.

With over 1,000 enrolled in the agricultural correspondence courses, and many applications coming in from day to day, the interest in this form of education has exceeded all expectations. The greatest number are enrolled in the soil fertility courses, with poultry husbandry next. For the remaining 20 courses the demand has been practically equal.

The course consists of as many as 15 but not less than four lessons each. When a student enrolls the first lesson of a course is sent with a question sheet which must be answered and returned before the second lesson is sent. While the applications have come mostly from individuals, it is expected that granges and farmers' clubs will take up the courses as a body.

THIRTY TRY OUT FOR TEAM.

Thirty students have enrolled in the advanced class of live stock judging, from which five men will be selected to represent the University at the International Stock Show, which will be held at Chicago early in November. The course included instruction in the judging of cattle, hogs, horses and sheep, the laboratory work consisting of trips to livestock farms in the vicinity of Columbus.

The postponement of the National Dairy Show because of the recent outbreak of foot-and-mouth disease in Illinois, will also call off the students' dairy judging contest, to which the University has sent a team for a number of years, last year's team winning first honors. No advanced class in dairy cattle judging will be conducted this year.

JAPANESE VISIT UNIVERSITY.

Seeking information regarding the purchasing of sheep in Ohio to be shipped to Manchuria, two Japanese engaged in animal husbandry work in that province of the Chinese republic called upon Prof. Charles S. Plumb, head of the department of animal husbandry, recently. They were Taiji Komura, of the agricultural experiment station of the South Manchuria Railway Company, and H. Hikosaka, connected with a Yokohama business house.

Proclamation for Ohio State Day

Alumni, Ex-Students and Students of Ohio State University, GREETING:

WHEREAS, The ties that bind us to old Ohio State, whatever be their nature, are strengthened and renewed through anniversaries and other celebrations dedicated to her; and the memories and ideals which cluster round her name are perpetuated and enriched by the observance of the customs which have grown up among those who delight to do her honor:

NOW, THEREFORE, By virtue of the authority vested in me by the Board of Directors of the Ohio State University Association and in compliance with their direction, I do hereby designate and appoint Friday, the twenty-sixth day of November, 1915, as "Ohio State Day." On that day let us gather at the appointed places and together sing the old songs, renew the old friendships, tell the old stories of college life and learn of the wonderful progress of the University during the past year. Let us on that occasion cultivate every means of keeping permanently in touch with the University and with each others, such as, more particularly, membership in the Ohio State University Association and in local associations of alumni and former students, all to the end that we may, in some small measure, discharge the obligation of love and gratitude which we owe to the institution of which we are so proud.

CLARENCE D. LAYLIN,
President, Ohio State University Association.

Prof. W. J. Rader's Private Academies of Dancing

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BEGINNERS' CLASSES Wednesday evening, Oct. 13th, and Saturday, Oct. 16th, 7:30 o'clock. First lesson.

ADVANCE CLASS Monday evenings.

RECEPTION NIGHT, Thursday evenings.

TUITION:

Gentlemen, per term of 10 lessons..... $5.00
Ladies, per term of 10 lessons..... 4.00
Prvate lessons, $1.00; six for..... 5.00

Tuition can be paid $1.00 per week until paid.

Private lessons can be had afternoon or evenings.

The Waltz, Two-Step and the late modern dances taught in one term.

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PROF. H. J. GUERR

Announcement

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Will organize Beginners' Class Monday evening.

Tuition: Gentlemen, per term of 10 lessons, $5.00; Ladies' per term of 10 lessons, $4.00. Tuition can be paid $1.00 per week until paid.

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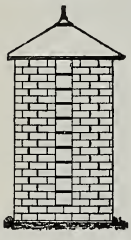

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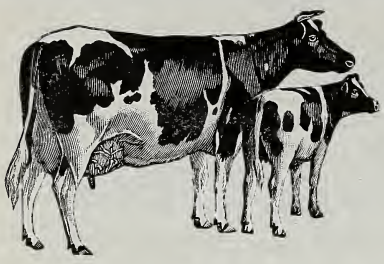

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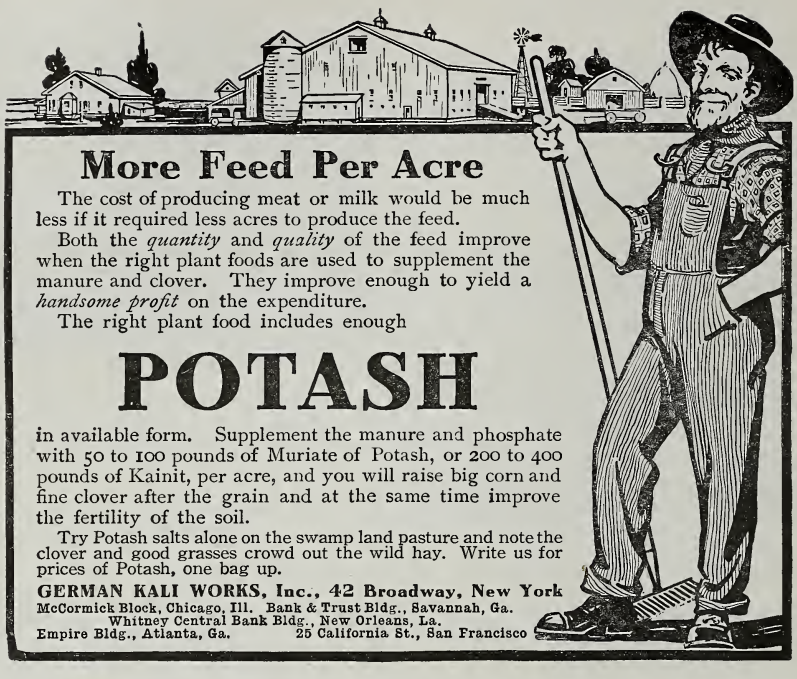

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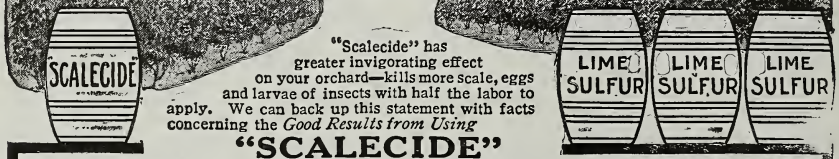

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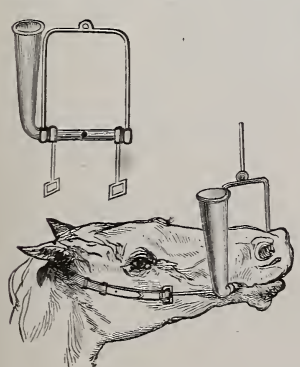

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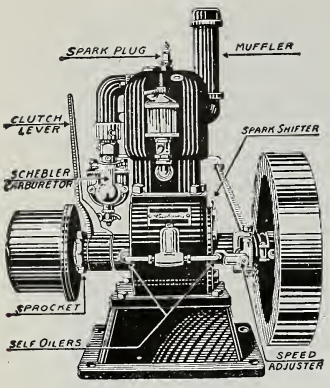

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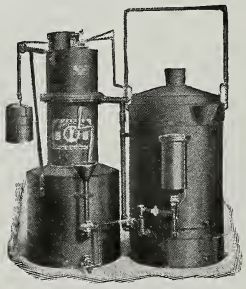

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Prepare this Fall for Spring Tree Planting

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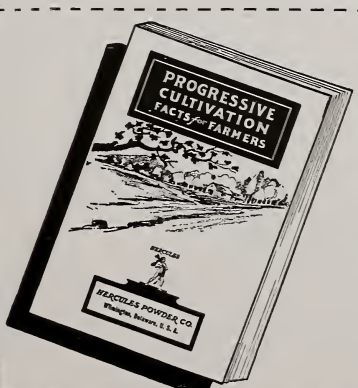
Let the holes lie open during the winter. Then plant the trees at the regular time next year.

You will be surprised at the rapid progress made by trees planted in this manner.

Hercules Dynamite breaks up the soil thoroughly for some distance around the hole. The young tender roots are thus enabled to spread and grow in a natural manner.

When two trees are planted at the same time and in the same orchard, one in a spaded hole, the other in a dynamited hole, the growth and development of the latter is invariably almost twice that of the former. This difference always shows when Hercules Dynamite is used.

If you are not thoroughly familiar with the advantages gained by using dynamite on the farm, write today for "Progressive Cultivation." It contains valuable information on tree planting, subsoiling, stump and rock blasting, drainage work and other agricultural activities.



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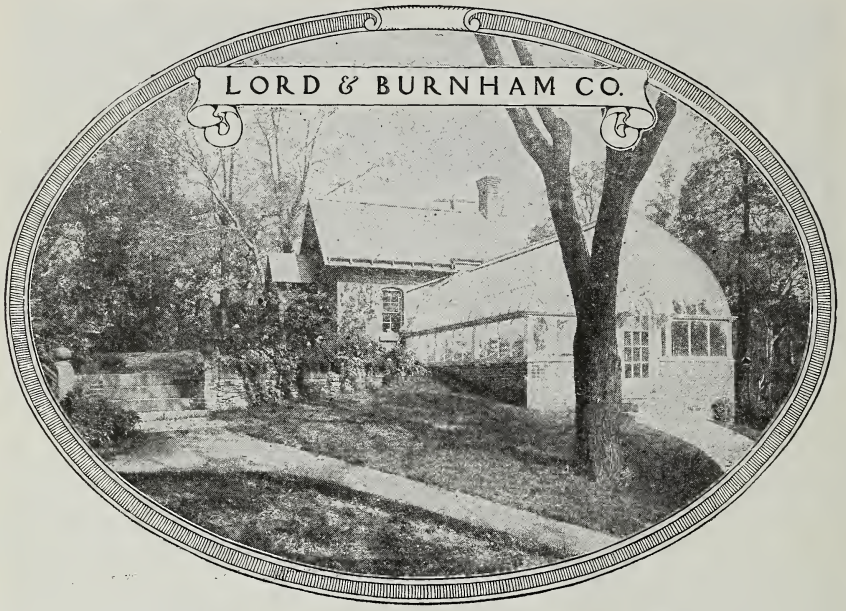

FIND OUT FROM US WHAT A GREENHOUSE COSTS

Every once in a while, after we have told a prospective customer what the cost of a greenhouse will be, to meet his particular requirements, he declares that if he had known they could be bought so reasonably he would have had one long ago.

There seems to exist in the minds of a good many, the impression that greenhouses are millionaires' luxury. Unquestionably they do add greatly to the pleasures of the so-called moneyed class; but you don't have to be anything like a millionaire to luxuriate in the joys of possessing one.

Admitted that you don't get much of a house for less than $1,000 or so. But what is $1,000 for a greenhouse that means a lifetime of pleasure in comparison to the same amount for an auto which lasts at best but a few years? If you can afford one, you certainly can the other. For a satisfying happy-making hobby, there is nothing quite like a greenhouse.

We have a booklet entitled Two G's, or a Peep Into Greenhouse Delights, that we would like to send you. It will set you right on many of your wrong greenhouse impressions, and open your eyes to many of its delightful possibilities.

Growing big, tenderly delicious grapes in pots, is one of the joys of having a greenhouse.

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A De Laval catalog to be had for the asking tells more fully why the De Laval is the most economical cream separator, or the nearest local De Laval agent will be glad to explain this and many other points of De Laval superiority. If you don't know the nearest local agent, simply write the nearest De Laval main office as below.

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